Fall 1994

Special Libraries, Fall 1994

Special Libraries Association

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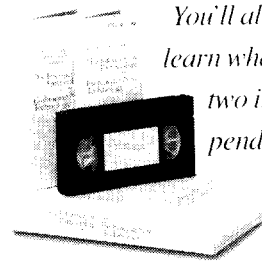

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On the Scene

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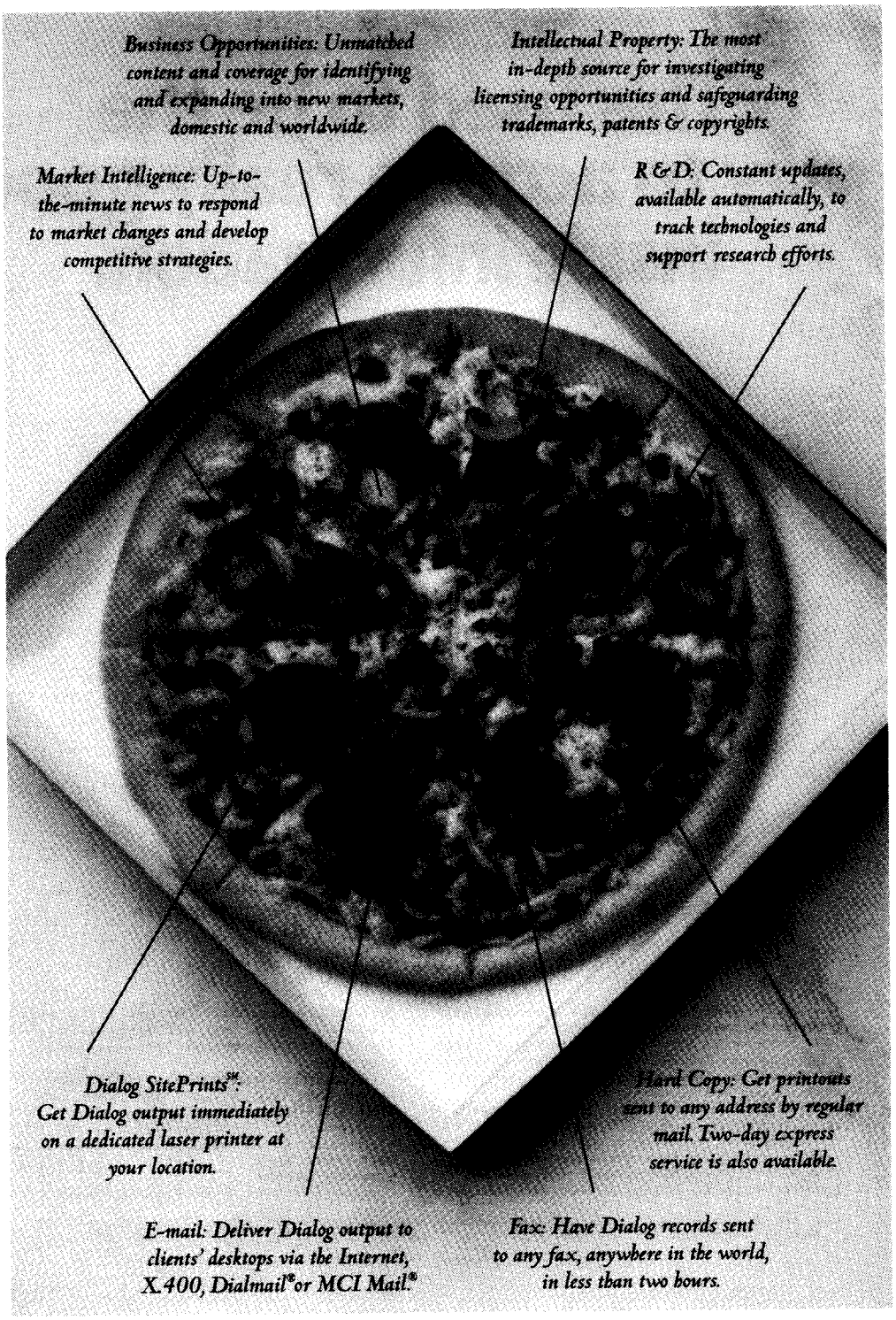

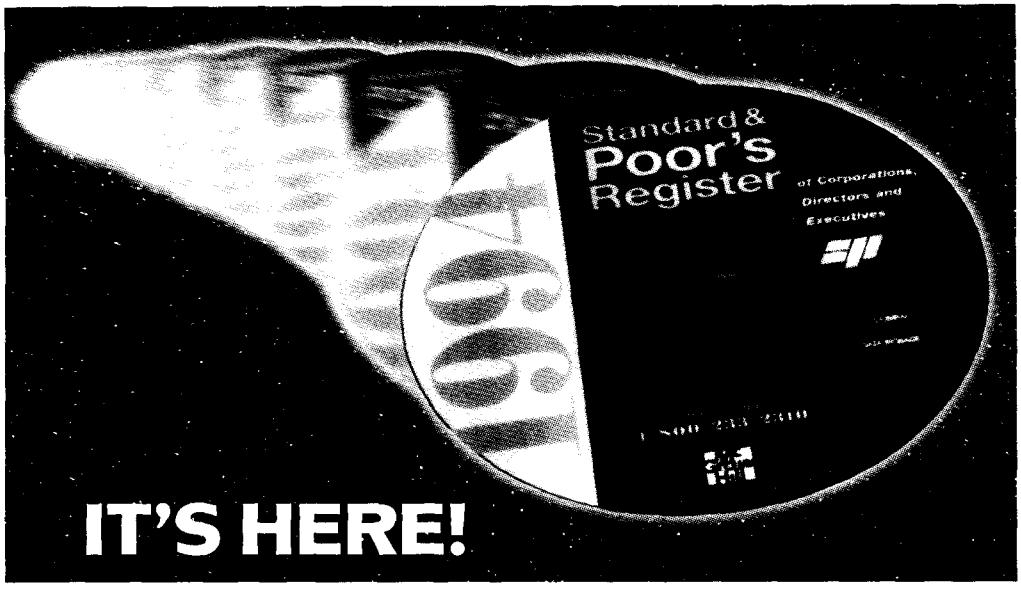

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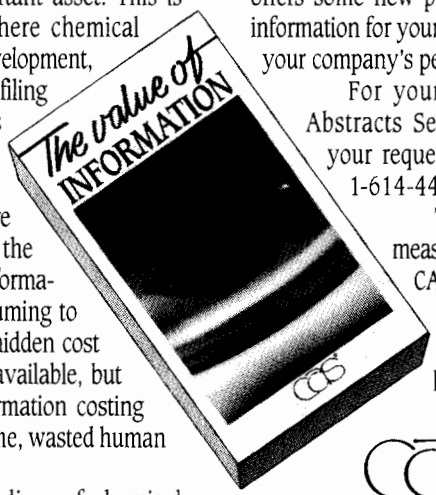

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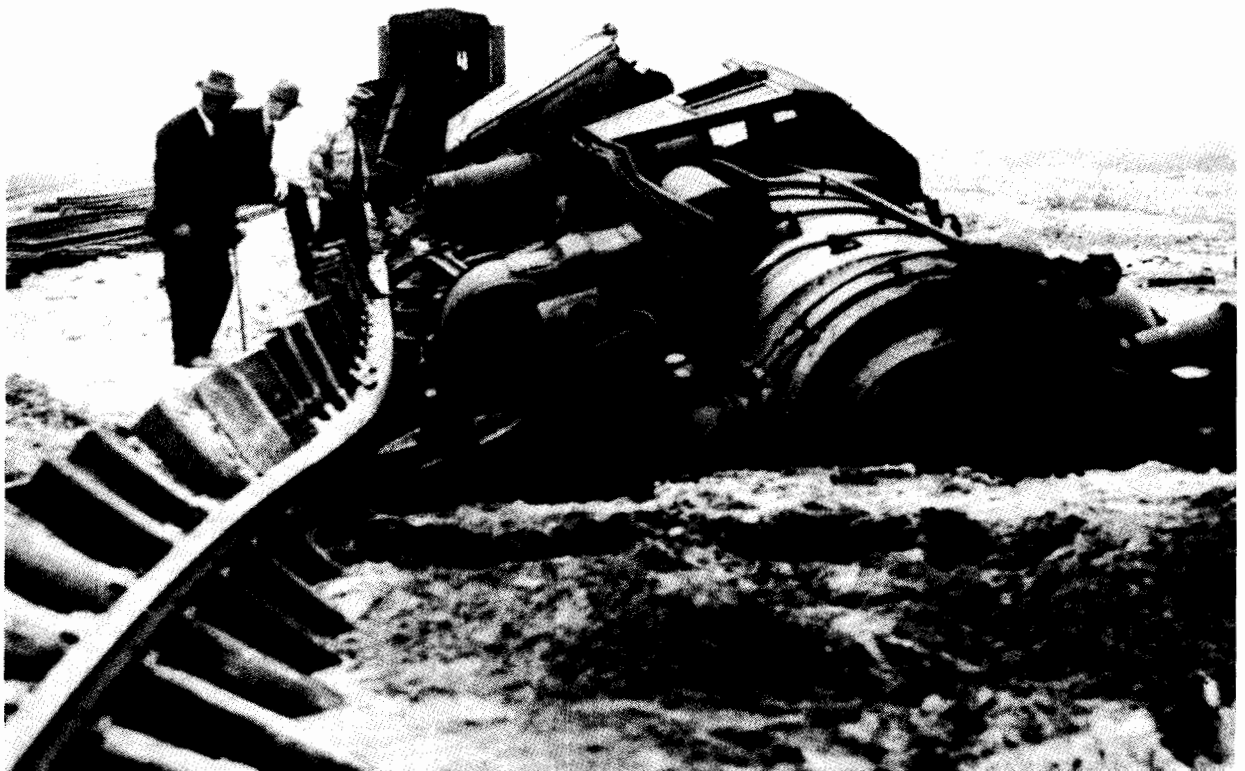

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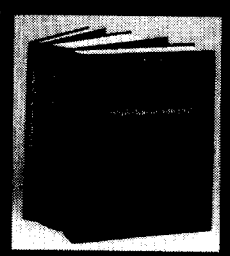

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Preface

by Corilee Christou, Guest Editor

Many years ago, in an essay question for a library school reference course exam, my class was asked to define our vision of the reference process. As a longtime "Star Trek" and science fiction fan, I eagerly placed my library somewhere in cyberspace aboard the Starship Enterprise where the computer listened patiently to the "Knowledge Manager's" requests, found the relevant information, distributed the results directly to the library patrons and calmly relayed back, "Mission accomplished." Needless to say, the professor viewed my vision as "a little excited" albeit "interesting." As witnessed in this quote from the October 1983 American Library Association journal,[1] the emergence of computer technology was viewed with the same skepticism. "Enthusiasm for computers, reaching what one author has called 'near hysteria' is seen by some librarians as pure poppycock, designed to divert our attention from collection development. These librarians aren't the only ones who look askance at the 'computer revolution.' At times it seems the public neither expects nor welcomes change in the library. Changes elsewhere are taken in stride...but the library turning away from books? That's trouble with a capital T." Consider, too, that this quote appeared just 10 years ago.

As the special library/information profession heads into the 21st century, no one would question the impact of computer and networking technologies on the role and even the title of the librarian. Marydee Ojala poses several new functions and corresponding titles in her *Special Libraries* article, "What Will They Call Us in the Future?"[2] She also references the title Frank Spaulding coined, "Knowledge Counselor," which is described as "an empowerer of people who need and use information." At Mead Data Central, the title "Information Coach" is often used. Regardless of individual preference, all of these nom de plums point to a less operational and more consultative and managerial approach for the future. As information and information delivery mechanisms proliferate, there will be an increasing need for an overseer, an administrator of information resources to ensure that the right information, in the right format, and at the right cost is made available to users.

There is a tendency to view technology as the end result when it is only the enabling function for various information products. One of these products is the virtual or desktop library. At this year's SLA Annual Conference, when Kaye Cloyes talked about her experiences at Caterpillar Inc. in a session on the corporate virtual library, she called the virtual library a Personal Desktop Library and defined it as a traditional library in a nontraditional setting. In the same session, Richard Hulser, Technical Librarian at IBM, stated that the technology associated with the virtual library made it possible to do things differently instead of doing more with less. Furthermore, the Bank of Montreal's Sylvia Piggott states that the virtual library is "very much a work in progress" and when it is finally realized, librarians will have "assumed the role of knowledge managers."[3]

This issue features several examples of "Knowledge Managers" (my favorite of the proposed titles) "doing things differently," ranging from Carol Ginsburg's attempts to promote desktop searching via Lotus Notes at Bankers Trust, Mel Westerman's Internet project, and Sandy Raymond's copyright case

study at Thinking Machines to the fascinating approach Akio Mori has taken in Japan's Toshiba Corporation version of a "virtual" solution. The individuals and ideas represented illustrate some of the many manifestations the desktop library and accompanying "virtual products" can take, the reasons behind their development organizationally, and some of the challenges librarians have in the management and creation of this type of library or product (copyright, measurement criteria, organizational impact and productivity improvements, end-user searching, etc.)

Until recently, much of the focus on the virtual library has been on how to build one—the technology as opposed to the management and marketing realities associated with the end product. More study needs to be devoted to the change in tasks required by the librarian in administering and creating a virtual library and then identifying the required skills for this new role. In a special issue of *Business Week*, "virtualization" is predicted to "eliminate slack at every level of business, from the internal routines of single companies to the organization of industries and marketplaces" ... and removing "intermediaries, speeding transactions, rebalancing power relationships and slashing costly fat."[4] In the virtual library setting, the traditional librarian role of intermediary will go away, or at the very least, be reduced from the activity levels of today. However, the new and different role of Knowledge Manager will take its place. However, the objective of this new role will remain the same. Shera's 1970 definition of librarianship, "The object of the library is to bring together human beings and recorded knowledge in as fruitful a relationship as it is humanly possible to be,"[5] will be as valid today as it was then.

How much of a change this will be remains to be seen. If one considers Shera's definition, then the Knowledge Manager's mission remains the same, only the tactics used to accomplish this mission will be different.

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5 Shera, Jesse H. *Sociological Foundations of Librarianship*, 1st ed., New York: Asia Publishing House, 1970. p. 30.

For the past 11 years, Corilee Christou has held several positions at Mead Data Central, including Sales Representative, Market Manager, and Product Manager. Recently, she was named Director, Business Librarian Relations, where she is responsible for new product, documentation, and design for Mead Data Central's special librarian customers.

Introduction

by James M. Matarazzo

These can be confusing times for those who manage special libraries. New developments in technology, new demands on our customer base, and changing organizations only add to the difficult and strategic choices information leaders will have to make.[1]

The authors in this special issue of *Special Libraries* have offered the following articles to help us make those hard choices. Dorothy Norbie's explanation of the Electronic Library at U S West is especially significant to me because it provides ample evidence of the importance of internal information. At many firms I have found that access to internal information is even more important than access to external materials. Norbie's fine work also provides an example of two units of U S West joining together to meet the needs of company employees. The lessons in her article are many. Chief among them, however, have to be the value of partnering internally and the primacy of access to internal information to customers.

An Internal Assessment

As you read the lessons proffered by your peers, the focal point of this entire issue has to be your own organization. The management of your organization will have expectations of its information center and its information professionals. It is your job to know those demands. The users (I prefer customers) will also have very specific needs. In my work as a consultant, I find that user needs are not well known, since information professionals rarely have the time to work closely with their customers to see just how information is used and valued. The time has come to move out of the library as a place and into the offices, corridors, laboratories, and teams to find out what is needed.

Once the information manager knows what is needed by customers and demanded by management, the appropriate resources can be marshaled. Once again, my experience suggests that too often information center managers "feel" they know what customers need and array resources, both human and material, based on little or incomplete knowledge of customer needs and management expectations.

Any assessment will have to consider cost. With reduced budgets at most organizations, this could be a real barrier to implement a significant information management program. In fact, it is at this point that the reader may wish to determine just how much of a virtual library his/her firm can afford to start and to sustain. Nolan, Norton & Company recently released information on the cost in the budget to support a personal computer (PC) annually and found it to be between $2,000 and $6,500. This technology consulting firm also identified invisible costs of $6,000 to $15,000 per PC spent annually to help PC users.[2]

The Politics of Information

Davenport and Prusak note that any radical transformation in corporate libraries "will require incremental resources." Yet at the same time, these authors insist that information professionals and the organizations they serve "must be willing to invest in the management of information that helps us make better products, decisions and [improve] customer relationships."[3]

Information professionals operate not only with economic restraints but also within the political realities of their organizations. The story of BP Nutrition and the development of its virtual library deserves your close attention.[4] While the company reduced total staff worldwide, some 15 percent in three or four years, the information services staff was reduced 90 percent during the same time frame. The politics involved in meeting user needs while doing what management wants is not only complex, but can be difficult in a philosophical sense for most of us. Most of us feel that information is a self-evident good and any notion of rationing or refusal to provide this "good" is counter-cultural. However, corporate downsizing, regulatory changes, and unforeseen competition has changed forever the domain in which most of us operate. While change is all around us, businesses "still face relentless pressure to meet quarterly and annual financial targets."[5]

SLA's Contributions

With Corilee Christou's guest editorship of this issue of *Special Libraries*, your Association has once again demonstrated leadership in keeping its members on the cutting edge. Just recently, the association released an SLA Information Kit, *The Virtual Library*,[6] which has nearly a dozen well-written articles. The choice, then, is yours—be informed and help in the process of "rethinking how a corporate librarian can bring new value to his or her organization"[7] or float on the tide and be washed ashore, not sure of where you are or how you got there.

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James M. Matarazzo is Dean and Professor at the Simmons College Graduate School of Library and Information Science, Boston, MA. He is a Fellow of Special Libraries Association and serves as a consultant on information management in corporate settings.

The Journey from Vision to Reality of a Virtual Library

by Kay Cloyes

Introduction

The demand for increased accessibility, more timely delivery of results, and international coverage of business, technology, and law has made corporate librarians look for more effective ways to serve customers. The current trend to meet the demand in many corporate settings is with a virtual library. While the definition may vary from library to library, a virtual library universally implies electronic integration of new services with traditional library services. A virtual library may be as limited as an online public access catalog (OPAC) or as comprehensive as using computer networks and electronic resources for announcements of holdings and new developments along with delivery of reports, articles, and books. A virtual library is the way a traditional library uses technology and innovation to meet customer demand.

"Virtual library" is but one of many terms that describe the activities that are underway. The virtual library is also called a desktop library, an online library, an electronic library, or the information superhighway. The common thread is the use of technology to improve customer delivery as well as the search and retrieval technology available on electronic networks. Whatever the name, the new service frequently includes a significant increase in end-user searching. The corporate library is in a unique position to extend its traditional role and become a major player in the corporate information infrastructure. As customer demand grows to include desktop service along with traditional service, the library has the opportunity to create an internal distribution network that adds value, meets the corporate customers' needs, and expands their information opportunities.

A virtual library is not a system that simply evolves over time. It requires a desire to reach a specific destination and a plan. Since every journey is easier with a map, this paper will provide a description of the route followed by the corporate library at Caterpillar Inc. Hopefully, some of the highway signs that are discussed will make the trip easier for others who plan a virtual library.

Hazards on the journey include rough roads (inadequate research before beginning a virtual library project); dangerous curves (a vision that does not take into account all the variables); falling rocks (the obstacles to implementation related to cost and value considerations); merging traffic (use of Internet and commercial networks); and speed zones (establishing appropriate intermediate goals). These are by no means all the traffic hazards one will encounter, but this article shows some of the road hazards and provides useful driving hints. As other librarians—corporate, academic, and public—share their experiences, the road will become smoother and well lit. Implementing a virtual library will be as commonplace as interlibrary loan is today.

Rough Road

As you explore the options to implement a virtual library, you may decide the road seems very rough. Rough roads represent the research that must be done before beginning implementation of a virtual library. When you have done adequate research to find what is available in the library world, the marketplace, and within your organization, you will have a vision of the current options. This is a rapidly growing field. As you continue planning and implementation, try to stay current with new products and developments. Stay abreast of the ever-changing alternatives during the project. Not knowing the alternatives will make the journey treacherous and the road extremely rough.

Make sure you understand the competition before you start a virtual library project. Many competitive services offer fine services and someone in your firm may want to subscribe to an alternative source of information. Thorough research and planning make your journey like traveling on a broad, smooth highway.

One final caution: It is possible to spend too much time investigating and planning for a near-perfect solution. The options for implementing a virtual library come so fast and so often that you could be left behind waiting for a better road to be built.

Curves

You must evaluate where you are and where you plan to end up. Even though the route is not a straight line, it should be as direct as possible. Slight variations in a well thought out plan can be corrected without changing your course. There will be curves in your plan which must be approached with appropriate caution in order to stay on the road and implement a successful virtual library. In other words, "curve" is not a synonym for "bad road." Rather, curves may be the most efficient way to travel over hills and valleys. One must be sure to look far enough ahead to see the nature of the curve and take appropriate action. Unanticipated curves can throw you into a ditch or take you down a wrong road.

A very sharp curve has a speed limit that indicates caution is needed. Deliberate thought must go into networking considerations, selection of materials to deliver electronically, and staff training. When you approach the time for conversion of existing electronic sources, your speed will probably be somewhat faster than you like—but not to the point of being dangerous!

Your staff and support from the data processing department or vendors dictate many timing issues on the schedule. With the right equipment and driving skills, you may even find that you can speed through some curves much quicker than you originally planned.

S-curves represent the reaction of other people to the concept of a virtual library. It is critical to develop a team that has the skills to negotiate a common understanding of the goal and stay on track. The team should include librarians, library support staff, business and technical managers, customers, vendors, and the data processing staff. If there are other groups that have a special interest in the library, make sure they are included and understand the concept that is being planned. Successful implementation requires that the team pull together, so be sure that each member understands the goal, the timetable, the deliverable, and the cost. Unexpected reactions can quickly stall a virtual library project!

While you are negotiating the curves, you will find that you also travel along many stretches of straight, smooth road. Just as it takes a combination of visioning, planning, marketing, and training, it takes a combination of straight roads, curves, hills, and valleys before you reach your destination. You must also have a map, an appropriate vehicle, and skilled drivers. When the drivers travel at the indicated speed, you will reach the goal of a virtual library in a timely manner.

Falling Rocks

There could be some obstacles in the implementation of a virtual library. These obstacles are like falling rocks, but a warning sign is often enough to prevent an unexpected emergency. Common falling rocks are the questions related to cost and value. Don't let these issues become obstacles or emergencies. The rocks that represent cost frequently receive more attention than the value considerations. Careful consideration must be given to both cost and value.

Costs require careful considerations and careful explanation. A big rock in the road may be the realization that the virtual library does not reduce operating costs. A more realistic goal is to deliver more service with the same staff. In the initial stages, the staff size may actually increase until you fine-tune the virtual library. If the materials budget has to include network licenses that were not included previously as part of the library budget, materials costs will rise. Careful cost analysis is required to determine the long-term effect of costs on both the library and the enterprise. Rising costs for the library may be more than offset by falling expenditures in other areas. Your analysis and explanation must cover these areas.

Determine the synergy that is inherent with other information services—both within your firm and from vendors. Look for a way to leverage material purchases so that more people have access to the same resources and the per user out-of-pocket expenditures are reduced. Look at the ongoing costs for both future development and maintenance. A virtual library is not maintenance-free. It is as treacherous to ignore the questions related to current and future cost as it is to approach an area of falling rocks without a warning! It is worse yet to ignore a visible rock.

The second type of falling rock is establishing the value of the virtual library project. You must be able to measure the value of the virtual library in terms that are appropriate for your organization. What does your organization value? For some, the metrics are dollars for both cost and value, but for others the equation includes time. Convenience or security may be the key word for another firm. For a research area, the breadth and depth of coverage may be the most vital. Look at your specific organization and follow the examples of other corporate leaders.

If time is critical, how do you measure this value for current library services? It may be exclusively measured in terms of time saved in new product development or in competitive advantage. Clearly state how a virtual library contributes to improving delivery and helps meet corporate goals and critical issues.

If more sources of information are valued, compare the current value that customers are receiving and the incremental benefit of more sources. For example, how quickly can your firm identify the impact on sales when new firms enter or leave the market? New technology may provide new competition or new process advantages. If players in other industries pursue a new path, it may create opportunities or threats for your organization. Analyze the current library services to determine how you measure up on satisfying these needs. Then you can determine whether the virtual library will provide an advantage.

There are many other sources of potential value. Providing the resources for continuing self-education through the library collection is critical to many organizations. Helping employees stay abreast of changing events through various current awareness services adds value. In some organizations, periodical routing is part of the library service. Does a virtual library change the need for routing or the value of routing? What happens as electronic articles and electronic journals are available in areas of interest to your customers?

These falling rocks must considered when planning a virtual library. A myriad of individual questions must be addressed within each organization to clearly determine and define the variables in the cost/value equation.

Merging Traffic

When one thinks of merging traffic, it frequently means that the route has joined another roadway. In the virtual library, there are many external sources available to library customers. The merging lanes for easy access to these sources are rapidly taking shape.

Consider the Internet, America Online, Prodigy, and other consumer information banks. Each provides opportunities for both the library and the end-user community.

It is apparent that Internet is growing at such a rapid rate that it must be included in plans for the virtual library because of its link to external sources—information and experts. In some organizations, it is advantageous for the corporate library to take a proactive position to include Internet with tools such as Mosaic and World Wide Web (WWW) as part of the desktop tools. Of particular concern with Internet are the questions related to computer network security. Many organizations are currently coming to grips with the procedures that act like guardrails to protect internal data security. Determine where your organization is and where it plans to be to identify the merging lanes that will be valuable now and in the future.

Speed Zones

Speed zones along the highway represent the rate at which you should be traveling. The delivery date for implementation and release of a virtual library indicates the average speed you should strive for along the way. Set as many intermediate goals as appropriate and move along at the appropriate speed for each stage. Consistency in staying within the speed limit at each step ensures safe arrival at the final destination. A safety slogan reminds us that a majority of accidents occur within 25 miles of home. In this journey toward a virtual library, the start and the end of the plan are the most critical.

End of the Road

You must have appropriate management support to complete the journey from the vision to the reality of a virtual library. Staff needs to be a part of the visioning and planning process as well as the implementation. Since libraries are first and foremost a service business, customers must be included in the planning process. Whatever time it takes to start the project with a "full tank" is well spent. The success of the whole journey depends on visioning and planning.

As the virtual or desktop library becomes a reality within your organization, it is especially important to continue to stay abreast of what is happening inside and outside your firm. Most librarians who have started on this journey will find that the original destination is a new beginning. When customers realize the potential of having worldwide information resources at their fingertips, new opportunities will open for service providers and customers. Be prepared to begin another journey as exciting as the one we are on today in moving toward a virtual library.

Conclusion

The virtual library concept is the current trend in libraries with the resources to provide this personalized service. It is part of the tradition of responding to customer needs for more valuable information, delivered more quickly, and in a more effective package. Librarians are in the driver's seat to recognize and respond to this demand since they have been at the forefront of cooperative information delivery for many years.

There are many people who have contributed to the journey I described in this paper. I want to extend special thanks to the Caterpillar Inc. team of managers, Technical Information Center staff, Corporation In-

formation Services staff and the many internal customers at various Caterpillar facilities who contributed to the vision, planning, and implementation of a virtual library. Caterpillar has not yet reached its virtual destination, but the journey is underway. Making the journey has led to new insights about our information needs and expectations. The journey is far easier because of the teamwork and commitment of the Caterpillar team!

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The Realities of the Virtual Library

by Carol L. Ginsburg

Is paper really going away? Desktop access to information for end-users changes the way libraries and librarians do business. Does it create less demand for library services or different demands?

In a true chicken-and-egg scenario, NewsEdge for Windows and Hoover arrived at Bankers Trust Company almost concurrently with Windows and Lotus Notes. In order to load the new software on personal computers, hardware had to be upgraded (Windows and Notes run faster on 486 computers). In order to persuade people to spend their budgets on upgrades, the products had to be worthwhile. In effect, Hoover sold Lotus Notes, which sold upgraded computers.

With the advent of Notes, the virtual library took root. For many years, the New York Information Center at Bankers Trust was able to deliver research over the Bank's e-mail systems, but now the information center staff could send huge documents or spreadsheets almost instantaneously. In addition, the Hoover product (after a lengthy pilot) was rolled out to 500 users. As each employee had Windows and Notes installed, they also received Hoover and NewsEdge for Windows. Every employee was required to take brief training classes in Notes, Excel, Word for Windows, Hoover, and NewsEdge. Notesmail accounts were not activated until the employees were trained. It became a matter of pride to work in a department that had been upgraded.

The Information Center staff was upgraded in a piecemeal fashion which reflected budgetary considerations rather than status. At first, the head of the Information Center and then her assistant were upgraded, and ultimately the entire information center staff in New York and London were on Notes. Information Center staff has access to Hoover and NewsEdge but has seldom used it. The general consensus has been that the products are end-user tools, not librarian tools.

Where does the Information Center fit with these tools? The head of the Center provides consulting services to both the vendors and Bankers Trust technologists regarding the sources accessed and the formatting of the results. As information specialists, librarians provide the lead in translating user needs to suppliers. Value judgments are made as to which sources will best suit the needs of Bankers Trust's employees. New sources are tested among small user groups before they are offered to the entire client community.

How have the new information tools changed the way the Information Centers do business? No real change is apparent. End-users continue to rely on the information centers for their research needs. The volume and types of requests have not changed, and in fact, requests have continued to mushroom. Productivity has increased with the use of better software (Lotus Notes, Word, Excel) and higher speed modems.

What are Bankers Trust employees doing with their desktop information products?

The power users check in frequently to look at their portfolios, company profiles, and stock prices, and to compose queries. The casual users look at their Hoover or NewsEdge products when they have a few

spare moments or when they have a quick current question that needs to be answered.

How can this change? Do we want it to change? The answer to these questions is a resounding "Yes." Unless these products begin to change the information behavior of our clients, we are doomed to static growth. We cannot advance our profession to one of consulting librarians or analytical librarians when we are weighed down with requests such as "Here is a list of 50 companies; give me one year of news on each." The end-user search mechanisms are our means to move on in the information chain. We need to embrace them and market them within our organizations.

Are we there yet at Bankers Trust? We are probably as close as any global organization, but we are not truly virtual. Check in again next year!

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Management Models and Measurement in the Virtual Library

by Alan Powell

The concept of the "virtual" library has been a central topic of discussion among information professionals recently. In particular, the explosion in electronic publishing and the looming realization of the Infobahn (a.k.a. the "Information Superhighway") are pressuring traditional special libraries to change their identities and delivery mechanisms.

However, scans of the literature and conversations with industry observers reveal that the "virtual" library can have many definitions, including:

- A library with little or no physical plant of books, periodicals, reading space, or support staff, but one that disseminates selective information directly to distributed library customers, usually electronically.
- A more traditional library that has transformed some significant portions of its information delivery channels into electronic format, so that many or most of its customers do not need to visit the library to obtain information.
- A library that operates as a nexus of selected information management activities within the organization, some of them centralized, but most of which happen through the efforts of decentralized staff, resources, systems, and even outside suppliers, who are accessible and dispersed throughout the organization.

Each of these models, and others that are no doubt evolving as we speak, would seem to imply significant changes in management practices. To be sure, they require sophisticated and innovative thinking about both organization and operations.

But the characteristics that make a library "virtual" may only affect management approaches in a "tactical" way without changing the fundamentals of "strategic" management. That is, factors such as distance from customers, specific product/service delivery mechanisms, technology, and organization must be planned and managed differently, but the underlying concepts of customer-focused management are not profoundly changed. Special librarians should not panic because of the newly "virtual" aspects of their work.

Library managers who understand and implement modern, effective management practices [e.g., Total Quality Management (TQM), benchmarking, quality function deployment, process management, and change-oriented measurement systems] will not be perplexed by the impact of the "virtual library."

That said, how many corporate library managers have been able to understand and proactively implement these key management practices? The obstacles are many: lack of awareness or training, time and work load pressure, lack of quantitative analysis skills, etc. However, the overwhelming evidence from the larger business world is that these approaches work when organizations need to change, even quickly and radically. The community of special librarians must

embrace these same solutions and progress rapidly to effect change. They should focus much of their attention on acquiring and using the new skills needed to manage successfully in the 1990s and beyond.

Measurement

One key management practice that seems to be lacking in special libraries is the use of *effective* measurement systems. This is an area that is vital for both successful process improvement and for communication with senior executives who ultimately make the decisions about whether special libraries prosper or suffer, live or die.

This particular need has been discussed eloquently on several occasions, including in the special issue of *Special Libraries* on "Benchmarking, Total Quality, & the Learning Organization" (see especially Guy St. Clair's article "The Future Challenge: Management and Measurement"[1]), so we'll not discuss it more here.

What has been observed from a vantage point at the American Productivity & Quality Center in Houston, TX, is that many organizations are struggling to define appropriate measurement systems for a number of specific functions that are both knowledge-based and typically considered part of the corporate "infrastructure." Information systems, strategic planning, market research, competitive intelligence, and corporate libraries all fall into this same category.

Managers in each of these areas face very similar challenges to design new measurement systems with certain key characteristics. They need systems that:

- Provide a process view of the activities within the function;
- Encourage and drive improvement and change;
- Clarify and communicate the value of the function to senior management; and
- Allow benchmarking comparisons with "best in class" organizations.

But each organization is very different in terms of markets, products, organizational structure, corporate culture, and maturity in terms of process management and TQM. Therefore, an effective measurement system can't be merely copied or designed abstractly; each organization needs to develop its own.

However, the American Productivity & Quality Center's research indicates that successful measurement systems seem to have several common *design* characteristics, and these can form the basis of developing a useful set of measures and an effective and sustainable measurement process. Successful measurement systems include:

1. A balanced group of measures which provide a well-rounded view of the process or function. One or two measures cannot provide an adequate understanding of the effectiveness and value of a process or function. For example, a single-minded focus on a measure like cost per employee can be highly misleading.
2. Customer data and competitive data in order to be effective. Every process or function has one or more customers and, not to be forgotten, competitors. Measures that are strictly internally focused cannot provide the necessary diagnostic benefit.

Although there does not yet appear to be a strong consensus on a preferred measurement approach for these knowledge-based functions, there are several measurement strategies being explored by leading companies that might hold value for special librarians. One, the Service Level Agreement, has emerged from the information systems world (an obvious management relative of special libraries). The other, the Balanced Scorecard, has evolved from leading-edge thinking on corporate performance measurement.

Service Level Agreements

Service Level Agreements have been implemented by a number of information systems (I/S) organizations as a compre-

hensive way to collect requirements information, form true partnering relationships with customers, establish robust communication and feedback processes, and create measurement systems that work.

Under such arrangements, I/S staffs meet directly with key customers, both users and managers, to negotiate expectations, schedules, prices, and levels of customer support. Customer-driven performance measures and specific targets are mutually developed and agreed upon. Moreover, processes for accountability and corrective action are also established. These agreements are very similar for both internal service providers and for external suppliers or outsourcers.

Service Level Agreements have been very effective in a number of organizations because of the key role played by appropriate, objective (or at least mutually defined) measures, and because the overall process forces I/S staff to meet their customers early and hear directly what they want and are willing to pay for.

The Service Level Agreement approach focuses specifically on customer requirements, customer satisfaction, and economic value. This appears to be a measurement approach worth further exploration for special libraries.

Balanced Scorecard

One of the leading-edge approaches to corporate performance measurement is the "Balanced Scorecard," which has been proposed and tested principally by Robert Kaplan of Harvard University.[2,3]

Although it is intended for use at the organizational (corporate or business unit) level, the Balanced Scorecard represents an intriguing approach that speaks directly to the issue of how many and what kind of measures to use. Kaplan's approach advises organizations to use a limited number of key measures from each of four critical perspectives:

1. Financial Perspective;
2. Customer Perspective;
3. Internal Business Perspective; and
4. Innovation and Learning Perspective.

The Balanced Scorecard represents "a comprehensive framework to translate an organization's strategic objectives into a coherent set of performance measures." It is forward-looking and intentionally designed to foster improvement and change.

What makes it attractive as a conceptual model for developing a "scorecard" for special libraries, "virtual" or not, is that it appropriately balances internal and external perspectives. For example, the cost of providing library services is a key, legitimate measure of the library function. However, it is only one measure from one perspective; there are others that should be taken into account—customer satisfaction feedback, cycle time, quality (customer-defined), and number of new products or services, etc.

The Balanced Scorecard also helps the organization focus on what it must do well in order to survive and prosper in the face of competition. Since special libraries face many competitive threats today, not the least of which is the daily arrival of information alternatives on or around the Infobahn, as a profession we need to focus on setting priorities for change.

Conclusions

It is imperative that special libraries develop appropriate and effective systems to measure both processes and organizational effectiveness. These measurement systems must drive us towards improvement and change. They must place us closer to our customers, and allow us to communicate with our senior management in terms that are clear and compelling.

There is a great deal of work to do to develop such systems. Many special libraries and other knowledge-based providers have successful prototypes and even mature systems in place. We should, as a profession, find ways to share our success stories, or "best practices," as well as learn from other fields.

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Business Sources on the Net: A Virtual Library Product

by Mel Westerman

■ **The Internet is a vast system of computers with files of information, much of which can be useful in doing business. A new virtual library product, *Business Sources on the Net* (BSN), is the first guide to these resources covering all areas of business. More organizations are using computer-based communications to support team projects. Information professionals can play vital roles as team members by finding, analyzing, and transferring pertinent information from the Internet. BSN was created by teams in the virtual environment and is maintained as an up-to-date guide on the Internet while its future development is being explored.**

Introduction

This simple statement opened the January 1994 announcement of a new virtual library product on the Internet: "Approximately one year ago, 7 business librarians got together and decided to create a guide to what business sources were available on the Internet. Thus the project: *Business Sources on the Net* (BSN) was born."

Business Sources on the Net was conceived to be a virtual library solution. It was planned and developed in a virtual environment and it is an example of the information profession's commitment to the creation and growth of virtual library products and services. As the organizations that employ information professionals become more virtual, these professionals need to stay current on ways they can add value through their services to the individuals in their organizations. One main way that value can be added in virtual organizations is through connections to and participation in electronic networks, such as the Internet. BSN helps make the Internet, with its access to more than 1.5 million host computers worldwide, a valuable information resource. Small and focused by comparison to the total Internet, BSN is comprehensive in the breadth of business topics it covers; thus, it *is* "a guide to . . . the Internet." BSN is accessible as individual subject files via anonymous FTP to KSUVXA.KENT.EDU or on gophers using Veronica and its full name.

Product Innovation Strategy

Business Sources on the Net has been acclaimed as a valuable information product for anyone who needs a guide to cope with the vastness of Internet business resources. It was conceived by some academic business librarians sharing their frustrations about the vastness of the Internet on BUSLIB-L,[1] an Internet discussion group. These librarians organized into teams and produced the initial version of BSN. It was not released with the hype of an enthusiastic fellow running around fondling coaxial cable

nor of a New Zealand actress in Renaissance attire stating profundities on the seashore. Rather, the matter-of-fact, business-as-usual, turn-a-challenge-into-an-opportunity attitude of dedicated information professionals prevailed in its planning, development, marketing, and subsequent servicing. The focus was on *content*. Except for its "Introduction," *Business Sources on the Net* has little text. This virtual product is essentially a bibliography of information accessible at no cost on the Internet.

Only recently has a *product* marketing perspective been assumed by the creators of *Business Sources on the Net*. They originally identified consumers' needs for a guide because they were users of the Internet. But they were consumers with a difference. They had, or thought they could collectively develop, the skills, knowledge, and experience to create an Internet product to meet their own and others' business information access needs. The processes of gathering and compiling the entries for BSN's files have expanded and developed their skills and knowledge, and they continue to stay aware of the information needs of potential BSN users and new resources available on the Internet through Internet-based activities such as BUSLIB-L. They also use the Internet daily in other ways and retrieve files from it to meet the information needs of their libraries' users. These levels of involvement exemplify the "innovation strategy" of marketing a product, which stresses the *integration* of research, production, and service through the use of teams.

Virtual Teams

Several of BSN's creators had worked individually to try to compile their own lists of sources, but with limited success. One member had tried to compile her own list of business resources on the Internet, but was overwhelmed by its size and complexity. Another had focused on a specific area of business information, but realized he would not have time to address all the other areas that comprise business interests. The various individuals did not feel comfortable to attempt the BSN project alone, so the creators worked in teams from the beginning. They did so throughout the project exclusively on the Internet, with only one telephone call for agreement to start. Some members have never met in person.

A planning team took about six months to bring the product into focus, decide on its scope, and select its structure. The development phase, which took another half year, had subject-oriented teams headed by members of the planning team. In this way, teams allowed the information professionals to produce what they could not individually accomplish.

This project was based on the librarianship skills and knowledge of the team leaders and members, but it took them beyond past experiences. They grew beyond the familiar, through the challenging virtual medium of the Internet, into files on computers across the face of the earth. It was a multi-dimensional learning experience for almost everyone who contributed. (See the Spring 1994 issue of *Business and Finance Division Bulletin*[2] for more details on the project).

Information professionals who participate in this type of challenge/opportunity demonstrate the value they can add in their firms or other institutions in accessing publicly available information. As organizations adapt information technology to survive in these turbulent economic, political, social, and technical times, the roles of information professionals in them can become increasingly valuable. The challenges of computer-based networking require innovative delivery of services and creation of electronic (virtual) information products to substantiate the contributions of information professionals. An information professional who has some knowledge of the virtual environment and computer sites throughout the world becomes more valuable to his or her employing organization. Information professionals who are willing to take on the challenge of an Internet project can learn in the manner referred to by Mary Cronin of

Boston College. She wrote in *Doing Business on the Internet*, "Companies already linked to the Internet receive the added advantage of... learning invaluable lessons about management of networked organizations. There are many lessons to be learned."[3] This is indicative of the impact of electronic networks on corporations and other organizations. The lessons learned through an Internet project can be transferred to the organizations where we are employed.

Standing in the Future

Restructuring of organizations toward maximum flexibility using project teams and electronic communications is a trend that is observed daily. This observation was reinforced by the programs at the Special Libraries Association's 85th Annual Conference in Atlanta, GA. Current management literature, in books such as: *Revolution in Real Time, Managing Information Technology in the 1990's*;[4] *The Corporation of the 1990s, Information Technology and Organizational Transformation*;[5] *Intelligent Enterprise, a Knowledge and Service Based Paradigm for Industry*;[6] and *The Virtual Corporation, Structuring and Revitalizing the Corporation for the 21st Century*,[7] explains it. Mary Cronin summarizes the impact of electronic networking with these statements:

"... projects use the collaborative power of the Internet to help ensure American competitiveness in bringing technology to bear on applications in manufacturing." (And)..."The increased emphasis on collaborative research and development, even if the short-term motivation is strongly financial, does foster a qualitative shift in the organization of corporate research in America."[8]

In her review of *The Virtual Corporation*, Judith A. Copler, director, Computing Technology Assistance Center and "Hardcopy" editor at Online, Inc., instructs us:

"The important message for librarians and information professionals is that under the new information paradigm, lines of responsibility for various types of information are becoming increasingly blurred. To quote the book, '... creation of the virtual corporation will result from linking relevant databases into ever more extensive and integrated networks.' (And) ... In fact, librarians are not mentioned at all. However, I think it is important to be cognizant of these shifts in thinking and anticipate the role we might play." [9]

The **traditional** concept of "library" no longer fits with new organizational concepts. Although libraries and information centers continue to be valuable in organizations where they are established, their character and the roles of their staffs are changing. This is being experienced in academe as well as in businesses. In *Valuing Corporate Libraries: A Senior Management Survey*,[10] James Matarazzo and Laurence Prusak state the following implications to their findings: "Technology issues lead to questions about future library positioning and roles;" and, "Perhaps the librarian role may evolve into an information network manager for the firm." The implications of this are not yet fully realized, but it can be inferred from evidence and experience that Matarazzo's book, *Corporate Library Excellence*,[11] will become a landmark description of corporate librarianship at the close of the 1980s.

Since "Value is now created," as Peter Drucker concludes, "by productivity and innovation, both applications of knowledge to work;"[12] then, the 1980s concept of corporate libraries must be giving way to information professionals on the product development or service project teams as described in *Lightening Strategies for Innovation*.[13] In it, Willard I. Zangwill focuses on company competitiveness in the 1990s. After establishing innovation as *the* strategy, he reviews foundations in a firm. At many places, he could have mentioned the roles of information professionals among necessary staff expertise in developing essential technology and research. One place is on page 65, where he says, "Many sources of information are publicly available..." Librarians' roles in companies have traditionally been to find, analyze and provide publicly available information. The Internet can be

viewed as one more medium through which information professionals can access publicly available information to promote their companies' competitive successes. We are *Standing in the Future.*[14]

BSN: *Because Some Need*

The vastness and complexity of the Internet make its resources hard to track down. While the Internet provides an abundance of information from a variety of sources such as federal economic bulletin boards, university technical reports, electronic journals, and discussion groups, it can pose difficult challenges to those who seek information on a specific topic. You might know what you need, but how do you find and retrieve it? Internet resources differ as much from one another as they are widely spread in computers throughout the world. Tools developed to discover and handle the resources on the Internet (such as Gopher, WAIS and World Wide Web) are helpful, but complicated, time-consuming and not to be relied upon to unquestionably prove or disprove whether the answer to a specific question is "out there." Even gaining access to the Internet can pose a major problem. For a review of these and other aspects of the Internet, see: Chapter 2 "A Manager's Guide to the Internet," Appendix A "Selected Internet Publications," and Appendix C "North American Internet Access Providers List" in *Doing Business on the Internet.*[15]

Casual users of the Internet and those who have found some of its specific resources that they use often, tend to use only what is familiar to them. They ignore the rest, and lack the tools and expertise to discover what they might need from the vastness of the rest. *Business Sources on the Net* brings publicly available business information resources into focus for those who take the time and have the skills to pursue them. As a product, BSN is growing to reflect changes on the Internet and in its users' needs. From January to June 1994, the number of files grew from 10 to 12, with others in preparation and at least one (Marketing Sources) ready for the next release, scheduled for fall 1994. New releases are planned to alternatively provide expansion of the numbers of entries in each file and the updating of them.

As of June 1994, the 12 guide files encompassed in *Business Sources on the Net* in the directory at KSUVXA.KENT.EDU are:

- "Accounting and Taxation" - BSN.ACCOUNTI;
- "Computers" - BSN.COMPUTER;
- "Corporate Finance and Banking" - BSN.FINANCE;
- "Economics" - BSN.ECONOMIC;
- "General Business Sources" - BSN.GENERAL;
- "Guide to Foreign Statistics and Economic Trends and International Management" - BSN.STATISTI;
- "Introduction" - BSN.INTRO;
- "Investment Information" - BSN.INVESTME;
- "Human Resources/Personnel Management" - BSN.PERSONNE;
- "Locating Information on Companies, Organizations and Individuals" - BSN.LOCATION;
- "Management and Management of Public and Nonprofit Organizations" - BSN.MANAGEME; and
- "Management Science and Statistical Methods and Production and Operations Management" - BSN.OPERATIO.

The types of sources listed in the files are discussion groups (also called listservs or computer conferences), Usenet newsgroups (also called bulletin boards), Telnet files, Gopher sites, FTP archives, electronic publications (journals and newsletters), WAIS resources, World Wide Web (WWW), and freenets.

A product team has been formed from among the team leaders of the original content teams to consider several product developments. A change that is being considered is to make BSN accessible through the World Wide Web or WAIS. Another change might be to publish *Business Sources on the Net* in print. A print version would help someone to evaluate whether or not to search, or assist an information professional in fulfilling a request for a possible solution to a particular information need. Information

professionals could also use a print product to support their requests for Internet access through their own computers. A print version could add features not included in the electronic one; hard copy can be browsed in a way not possible online; and a print version could also be used as a teaching tool.

Conclusion

Business Sources on the Net is a virtual product in every way. It was conceived and created in an online (virtual) environment, and it is changing and adapting (a virtual process) to meet needs of information professionals whose organizations are becoming ever more virtual. To be "cognizant of these shifts . . . and anticipate the role we might play," Copler projects information professionals into being team players. BSN is a guide to the vastness of the Internet to help us be effective team players as we stand in the future.

Acknowledgments

The original seven librarians who began *Business Sources on the Net* expanded in number to 20 contributors to the contents of the files. Many others joined for short periods of time. The difficult nature of virtual product development through voluntary participation requires constant adjustments to keep the project moving forward. It has been a major learning experience for the author, and one not without mistakes. "Thank you" to all who participated, especially to those who contributed at high levels of participation, without which there would be no product.

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Mel Westerman is an Associate Librarian at the Pennsylvania State University, University Park, PA. He has been a business reference librarian since 1967 and a member of SLA since 1970. He was Editor of the *Library Management Quarterly* for two years and founding Chair of the Central Pennsylvania Chapter. He is Chair of the International Relations Committee, and worked for three months each in graduate business school libraries in Peru and the United Kingdom. Westerman has been involved with all stages of *Business Sources on the Net*.

NEWSFLASH! or One Cybrarian's Quest for Electronic News Delivery

by Sandy Raymond

Introduction

Originally, the intent of this article was to show how I was serving electronic news stories to my users and how online services and the Internet made it possible for me to be a cutting edge corporate cybrarian from the comfort of my own attic. Well, all that has changed now. This article is about the relationship between the volatile issue of electronic copyright and the evolving nature of cybrarian responsibilities. There are a million stories in the naked city; here is mine.

The Way We Were

Back in the old days (1990) when I started at Thinking Machines Corporation in Cambridge, MA, I discovered that we had a complimentary account with Online Vendor A. Anyone in the company could search it and retrieve all the material he or she desired! I set up a search criterion that grabbed news stories about Thinking Machines in particular, and the massively parallel processing (MPP) industry in general. Up-to-the-second news is vitally important at Thinking Machines because our technology is changing so rapidly, potential markets are constantly evolving, and the players in the emerging MPP industry are constantly creating new alliances. Therefore, information is a valuable commodity. Each morning around five a.m., I would put on my bathrobe, grab a cup of coffee, pad on up to my attic, retrieve and archive the stories, and send an e-mail message of headlines and path names to all interested parties at Thinking Machines. When folks arrived at work, they had a tidy little message in their e-mail box describing the headline and the story location. (See Figure 1). If they found the headline especially gripping, they could go to the file and read more. I believed there was no copyright violation because the stories were not being reproduced and because I included the scary copyright message at the top of each file. (See Figure 2). I slept well at night.

(The Seasons Pass)

Online Vendor A noticed our usage of this free account had increased tremendously, so the vendor shut off the account and waited for the phones to ring. Well, of course I called them, told them who I was and what I was

Figure 1

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/proj/library/inthenews/newspaperx.940803
1 NZP MPP computer sold to Cybrarians from Mars, Inc.
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doing with their information. I had folks with real information dependency out there! They were pleased to hear from me. I was told that as long as the information was not distributed outside the company or reproduced either electronically or in hard copy, the vendor had no problem with copyright violation. However, because the nature of the relationship between our two companies had changed over the years and because our use of their service had also changed dramatically with a trained searcher (yours truly, the corporate cybrarian) in the company, it now seemed fair to set up a new, paying account, but one with a very agreeable pricing structure. Everything was just fine. My users were thrilled with the custom service and, in fact, saw it as one of the most valuable services the library performed. The vendor seemed happy to have a new account with such a healthy appetite for information. I was happy because this allowed me to continue provide my users with a menu offering current news and it was up to them to decide if they had the time or interest to read a particular story. As a result of our telephone discussion, I believed I was doing this with the vendor's blessing. A year later, I was asked to write an article describing my particular brand of information delivery. I decided that before I put my story in writing, I should get permission in writing from Vendor A that what I was doing was okay with them.

Then What Happened

After listening to a description of what I was doing, the vendor's representative decided it would be a good idea to meet with me and see just what I was talking about. Our meeting was very amicable. She was sure that her company would have no problem with me describing the way I was handling their information, though of course, we would now be required to get a site license to redistribute the information company-wide or perhaps a per-reader charge could be assessed. I put forth my position that while I understood that they as information vendors need to be paid for their product to stay afloat and continue to provide quality information, in my interpretation of copyright law (and because of the earlier telephone discussion), as long as the information was not distributed outside of the company, replicated electronically, nor printed in hard copy, we were in compliance with copyright law. We paid for the information once and it was kept in one location, though most everyone in the company had the ability to read that one copy. There was no need to reproduce it. I liken this to buying a copy of newspaper, clipping an interesting article, putting it in a file, telling everyone in the company I have it and where it is, and allowing them to stop by and read it. Even in the corporate sector, this is not a violation of copyright law unless I photocopy the article. It is difficult to understand why this right is surrendered when the article that has been paid for is in electronic form. Is it because it would be so easy to break the law and copy it? Or is it because we, as a corporation, have almost no protection under fair use? It is also easy to break the law by photocopying an article, but the Copyright Clearance Center has gone a long way toward making it almost as easy to be in compliance with copyright law by purchasing a site license.

Online vendors could learn much from this model of an easy, consistent, and fair way to handle copyright of electronic information. I have attended seminars on copy-

Figure 2

NOTICE: This material may be protected by copyright law (Title 17 U.S. Code). Do not reproduce. Do not distribute outside of Thinking Machines Corporation.

right in the electronic age; I know that how closely a vendor holds its copyright varies from vendor to vendor. In part, this is because the courts have not had a long history of adjudicating on electronic text copyright cases, and it is also because some vendors do not have the right to grant permission, as they do not hold the copyright.

The vendor's representative told me that she would get back to me with a price for a site license. When she did, the price nearly doubled the cost of providing the basic online information. Furthermore, I did not get the impression that there was a standard redistribution pricing structure in place, and was told that even if we paid this fee, what we could do with individual articles would vary depending on the source of each article. What a headache! But hey, I didn't want to stop providing the newsflash service and I wanted to be "legal," so what choice did I have? I nearly agreed to sign the site license right then, but a little voice in my head said, "Shop around." So I did. Over the years, I have maintained a file of brochures gathered at trade shows from online information vendors and services, partly to keep myself informed and partly to illustrate the cost-effectiveness of keeping an online searcher on board. I performed an analysis of those news sources which most often provided the stories in which my company was interested. This was easy since I kept them in an online directory organized by source and date (newspaperx.940601 would be an article from the June 1, 1994 issue of Newspaper X). It turned out that while over a three-year period we had read news stories from hundreds of sources, we had only been interested in about two dozen sources 10 times or more. This gave me my list of important sources to check for inclusion when evaluating any service. Then I polled my users and asked them to tell me how often they read these stories—daily or weekly, etc. Approximately 200 of our 400 employees read at least one story per week. I'd say 50 percent patronage is pretty good in any population. This gave me a list of core readers and an idea of about what size site license we might require. I located four online vendors which covered most of the sources we were interested in. None of them covered all the same sources, but most of them covered the major news wire services, where a good number of the stories we were interested in originated. I compared these four vendors in terms of the cost of basic information, which meant news for one to 10 readers. I also determined the cost for various size site licenses (up to 50, 100, 200, and 500 readers).

I found one vendor that would provide the company with a comparable level of coverage. We could get a site license for up to 100 users and redistribute each mornings' electronic delivery to that many readers, or we could archive the delivery and that many readers could access those files. We could keep that archive for as long as we maintained our site license. The vendor assumes and allows a certain amount of internal, occasional sharing and the company signs an quarterly affidavit verifying the number of readers. All the information the vendor provides, regardless of the source, is covered in the same way. It is easy and Thinking Machines is in compliance with copyright law for about two-thirds of the cost of uneven compliance with Vendor A. (See Figure 3).

Figure 3

Vendor	Basic	50	100	200	500	Total	(100)
A	9000	9000	12000	12000	12000	21000	
B	8500	4000	6200	10200	22200	14700	
C	726		2000	3500	6000	2000	
D	40000	60000					

Where We Are Going

The pursuit of electronic copyright compliance was the catalyst for this whole undertaking. It was achieved at a fair price, though not the first price. The activities involved in its pursuit gave me the windfalls of finding an online vendor that not only puts Thinking Machines in compliance with copyright law but also delivers the information. Another important discovery was finding that half the company uses the services of its one-person library.

Clearly, it is not the most enjoyable task to play the part of a tight-fisted shopper if you fancy yourself an information surfer, but it is likely an important part you will have to play as the most savvy information consumer in your organization. You are better suited than most to know or find out what's available and you can find the best quality information for your organization's dollar. If you can illustrate to the powers that be that you saved the company X amount of dollars, this can only help your position in the organization. Information professionals cannot just sit back and expect that the online vendors know what we want and need and will make it easy and affordable for us to get this information and be in compliance with copyright law at the same time.

It would help if electronic publishers could agree to standard rules concerning the handling of electronic information, keeping in mind that if the rules are too hard to keep they will be broken more often. To be fair, information consumers also need to remember that electronic publishers must remain profitable to continue to produce. We have to speak up and we have to shop around. We have to play them against each other now while the rules and prices are still being worked out. We are not talking about a $50 book—we are talking about tens of thousands of dollars spent annually on online information in many organizations and the purchasing power of many librarians, cybrarians, information brokers, and information hounds. We need to have a clear vision of what we know is fair. We need to be responsible shoppers.

Originally, I was sort of the corporate information shopper, cook, and server in my company. I served up three squares a day. These days, I've found a restaurant and I've placed a standing order. The information gets delivered. I spend less time shopping and cooking the basic three meals a day, but this has increased, rather than diminished, the value of the services I provide. I now spend much more time serving up gourmet meals to order.

Sandy Raymond is Corporate Cybrarian at think.com.

The Electronic Library Emerges at U S WEST

by Dorothy Norbie

The Electronic Library is U S WEST's answer to its internal need to manage costs while providing accurate, current information to its employees. This library is a joint project of two groups within U S WEST acting together to meet these corporate goals. Librarianship represents the linking factor between the customer solutions and the technical solutions. A new librarian position was created to manage the Electronic Library to assess and meet customer needs and to manage and provide access to information.

U S WEST is being challenged to resystemize its internal business practices to be a competitive company in the rapidly changing industry created by the convergence of communications, information, and entertainment. Business Resources Inc. (BRI), the materials management and office services group of U S WEST, was given the challenge to reduce waste throughout the company's office processes. Document management was studied from creation to distribution, updating or revisions, storage, retrieval, and finally, destruction.

BRI analyzed U S WEST's documents process in 1987 and determined that the company had 70 million pages of technical and administrative documents in paper form. In 1989, a follow-up study estimated that these documents had grown to 140 million pages. Two sets of documents were identified. The first set was installation, repair, and maintenance manuals that comprised 60% of the total document base. The remaining 40% was found to support the internal infrastructure of the company—like benefits guides, policies and procedures guides, tariffs, and manuals.

The Electronic Library resulted from a partnership between two U S WEST groups: Technologies (USWT), the systems development group; and BRI. Initially, U S WEST developed a system called the Document Management Platform (DMP) to manage the technical and administrative documents. Today, various U S WEST divisions use the DMP to store and retrieve these types of group documents. The documents are loaded onto servers and accessed at employees' desktops via X terminals and are usually specific in nature to the division using them. DMP manages the first set of documents (installation, repair, and maintenance manuals, etc.); the Electronic Library was developed to address the second set of documents—documents used to support the internal infrastructure of the company.

The Electronic Library provides desktop access through either Macintosh or Windows. USWT envisioned this library as intuitive and user friendly, using the click and drag techniques of the Macintosh or Windows interface, and having some value-added functionality like cataloging for additional points of access. The Electronic Library would be tied into U S WEST's existing internal network, USWnet, and would leverage the network and the hardware already available in the company to provide added value/cost benefits from the existing network.

As the Electronic Library systems development phase neared completion, the team began to look for a permanent librarian. During development, the project team asked the advice of librarians within the company as they developed the system. From the beginning, a librarian was viewed as having the required skills to

ultimately manage this project, possessing the necessary skills and training to perform the functions outlined below:

- promoting the use of the library throughout the company (marketing, sales, public relations, lobbying, developing partnerships);
- acquiring and facilitating the loading of documents into the system (acquisitions, electronic publishing standards, negotiations with document owners and vendors, training of word processors in publishing standards);
- ensuring quality presentation of library documents (electronic publishing standards and tagging, cataloging, user-friendly interfaces; appropriate locations and signage);
- managing employees' requests for access (library cards/passwords, a circulation-type function); and
- negotiating with authors and publishers to develop electronic publishing standards (acquisitions), training people to use the library (training and documentation available electronically, user guides, and help desk).

Being an "electronic librarian" requires a change in mindset towards many traditional areas of librarianship. In a recent survey in which U S WEST participated, most of the questions were not applicable to the U S WEST Electronic Library. The suggestion was made that the interviewer needed to change her questions to allow for different types of libraries. For example, the question "What percentage of your customers are walk-ins?," presumes that a building exists that customers walk into. This question could be changed to "How do your customers access your services?" There continue to be many assumptions that traditional library services are provided in a traditional public library model. This is no longer the case.

U S WEST's Electronic Library has taken a novel approach. It determined what electronic tools its employees had and developed a system that would work with them. It evaluated the existing inter-company network and developed the system to work on it. It asked its employees what they wanted to see in the library and started working with the authors to obtain the documents in electronic format. It developed an employee interface that is not dependent on paper manuals so that users can search it easily. Essentially, U S WEST focused first on the library's customers and built a system to meet their needs.

In the role of the "electronic librarian," some new perspectives have surfaced:

- The focus is on identifying which employees are not yet customers and turning them into users and gathering statistics on users by divisions within the company to determine where the library needs to be marketed;
- The librarian function focuses on making partnerships and designing user-friendly interfaces; users do their own research or reference work;
- Space planning has become screen planning;
- Instead of helpful, smiling people, friendly customer service is now the friendliness of computer menu screens;
- The pieces of data that become metrics for the success of the service are different. Circulation statistics become statistics on how frequently document groups are accessed by users and how users are realizing a savings of time and increasing productivity; and
- New measurement models for the cost of information must be developed, because users now perform research themselves.

The library sits on employees' desktops throughout 14 western states. It does not matter where the librarian is located. However, valid methods of surveying customers' need to be developed so their feedback can be collected quickly for the system development team. Customers enter the library electronically, so a user-friendly interface is essential. Excellent "signage" is required because no one is sitting at a desk to direct customers to locations. "How to use the library" guides are menu picks on

the first screen users see. Visual presentations, icons, and easily understandable symbols become very important.

Branding becomes more important, as the electronic library is one of many electronic systems within this large corporation. Electronically, the various systems and services can all look alike to the employees.

The Electronic Library has a specific scope: to acquire documents in electronic format that were created internally for U S WEST employees and were hard copied multiple times and distributed across the company. The second phase will look at externally-created information which is purchased multiple times within the company, like market research, journals, or newspapers. Vendors are willing to sell "electronic data" and will follow the technical requirements for the electronic library. Pricing and copyright compliance continue to be major issues.

For a number of years, I have observed the trends of technology and equipment in libraries and noted that libraries either need to have systems personnel on their staffs or have close ties to the systems personnel in their institutions. The Electronic Library requires a real partnership with U S WEST's system developers, and vice versa. In the future, the librarian will need to speak two languages—the language of users and the language of the systems personnel, in order to be a true "translator" and to ensure that user applications meet users' needs and that the systems delivering them are adequate. USWT system developers often have to diagram concepts for me or repeat the concepts to me again and again. They are still chuckling over my question about a "chicken program"—also known as a check-in program to them. However, I enjoy working with them and learning from them; I sense that this feeling is mutual. I am breaking their stereotypes of librarians; maybe I will earn the title of "techie" someday.

Dorothy Norbie, a graduate of the University of Denver Graduate School of Librarianship and Information Management, has worked in law firm and corporate libraries in Colorado since 1979. A member of SLA since 1979, she is a current co-chair of the Colorado Library Marketing Council, a joint effort by Colorado library associations to market librarians and their skills.

The Toshiba Business Information Center Moves Toward the Virtual Library

by Akio Mori

Introduction

What concepts are essential to establish outstanding value in a corporate library? The answer at the Business Information Center of Toshiba Corporation is to gather, detect, and manipulate relevant information and deliver it to end-users' desktops. By acknowledging "speedy and timely" as the keys of our activities, understanding the information required for the successful business, and utilizing computerized networks, the Business Information Center constantly provides needful information to the employees of the Toshiba Group companies. The users of the Center are able to "have" the regularly updated information they need on their desktops, saving significant amounts of time they may previously have spent looking for information. This article introduces the activities of the Center.

Toshiba Corporation

Toshiba Corporation manufactures a wide variety of electronic appliances and systems and has more than $37 billion in sales, which made the company 25th of the Fortune 500 in 1993. It is highly recognized in international markets, with 24 overseas offices and 84 overseas subsidiaries. While Toshiba's main products include almost every type of electronics, in recent years the company's sales of information and communication systems and electronic devices have accounted for nearly 50% of its total sales.

In addition, Toshiba launched a value-added network (VAN) business in 1989. This technology enables the Business Information Center to distribute and disseminate information effectively.

Toshiba Business Information Center

The Toshiba Business Information Center was formed in 1984 when a new headquarters location was created that integrated the company's several internal libraries. The Center is one of the departments within the Corporate Planning Division, whose main task is to support the Toshiba Group's management and employees in strategic planning and decision making. The users of the Business Information Center are found throughout the Group's many locations, including the headquarters, plants, branches, and subsidiaries.

In 1990, the Center restructured its environment in order to collect and provide information, thereby strengthening the functions of "gathering," "manipulating," and "transmitting" information rather than storing it. The utilization of the computerized network system within the Group and the significant development of electronic media have greatly contributed to the expansion of the Center's services.

Collection and Services

The Center stores 60,000 documents and approximately 600 types of magazines. The information media in the Center are shifting from paper documents to videotapes, opti-

cal files, online databases, and CD-ROMs. Six reference staff handle approximately 100 in-depth searches a month, utilizing a wide range of information sources in both English and Japanese. This is a fee-based service. In this way, the Center is always evaluated by its users in terms of quality of information and the amount of time spent on each request.

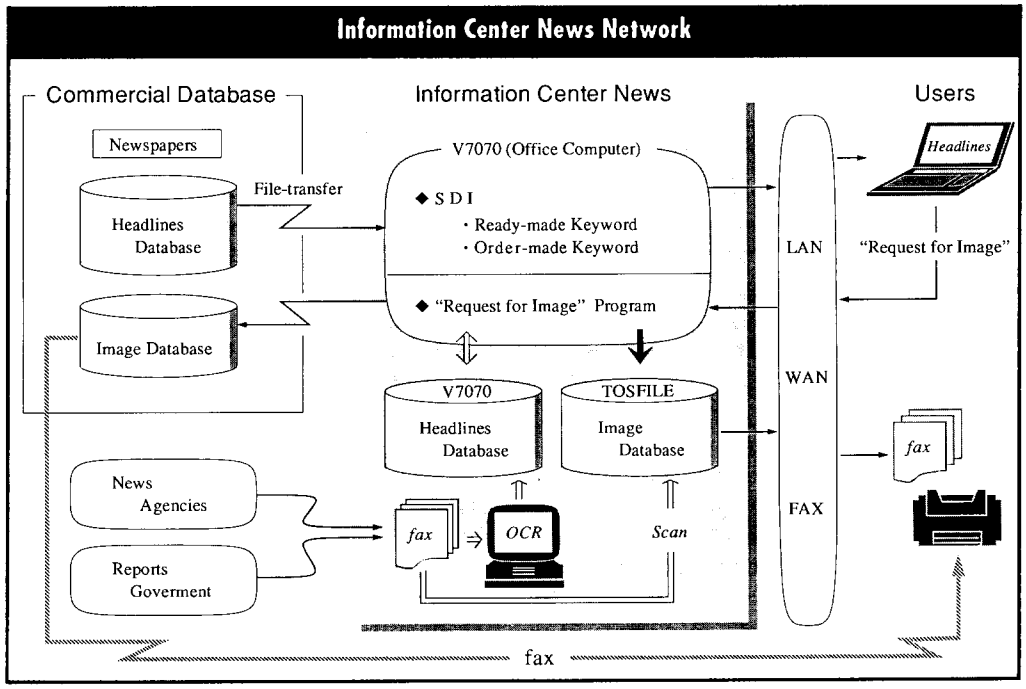
Information Center News

Besides on-demand basic reference services, the Business Information Center provides an electronic information tool on the end-users' desktops, christened "Information Center News" (ICN). This internal online service allows users to access the most current news, journal articles, government reports, and much more. All the information contained in the ICN database is customized by the Information Center staff who know which information should be available to the end-users (See Figure 1).

Every morning at about 7:30 a.m., 25 major Japanese newspapers are scanned and articles on high-interest subjects, including news on the company's competitors, are selected. This procedure is automatically run by using the ELNET, a commercial database service. Headline data is file-transferred into the internal database and stored by subject. Users can select any subjects on his/her computer screen (See Figure 2). If an individual wishes to obtain the full image of some articles, an order is sent from the same screen. Minutes later, image data is sent by fax which is linked to the ELNET service.

Press releases and overseas news relating to the electronics industry are sent to the Center by fax from Kyodo News Service immediately after they are released. Government announcements and reports are provided by specialized agencies every morning via fax. Headlines are processed by an Optical Character Reader (OCR), and the original images with photographs, figures, or charts are recorded in TOSFILE, an opti-

Figure 1



cal file system. Needed images are automatically transmitted via fax requests so interested users are able to obtain the information even before it appears in newspapers.

The Center staff read magazines and research reports as soon as they are available and add articles or reports on critical topics to the system with assigned key words. This makes information available much faster than on any commercial database service. Users can get only headline data on their computer screens for all the above sources; however, the image data stored in TOSFILE can be sent to any facility within the Group utilizing TG-VAN, an internal communication system.

The ICN is not available to everyone in the Toshiba Group. Instead, only those willing to share the cost are provided this service. The Business Information Center staff is aware, therefore, that its users constantly appraise the quality of the ICN to make sure it is a worthwhile investment. The Center currently has contracts for the ICN service with 30 divisions of Toshiba Group. Passwords are given to access the ICN screen in the special bulletin board in TG-Mail, an internal e-mail system.

Paying customers are able to register particular topics or subjects of their unique interests. By doing so, they can obtain news, press releases, or reports in their specific areas of interest as well as on general topics.

However, in order to market the ICN service, the Center releases a limited pan of the ICN database on a firm-wide basis. Thirty-one thousand subscribers of TG-Mail are invited to try "Information Center Brief," which allows them to access 10 to 20 newspaper articles per day on very general business topics and some press release and news wires. Within this open bulletin board, the number of readers' accesses is displayed for each headline. This helps to evaluate the quality and quantity of the information, and also provokes users to read news with higher numbers of accesses.

The ICN could not be a successful product without two elements—professional ex-

Figure 2

Sample Screen of Information Center News

INFORMATION CENTER NEWS **94-07-01**

DOMESTIC NEWSPAPERS

10. News Digests
11. Heavy Electric Equipment
12. Appliances
13. Industrial Electric Equipment
14. Electric Devices
15. Device Materials
16. International Business
17. Management
18. Others
19. Personnels, Financial Results
20. Toshiba
21. IBM
22. Hitachi
23. Mitsubishi Electric
24. NEC
25. Fujitsu
26. Matsushita Electric
27. Sony
28. Nuclear Power, Electricity

30. Keyword Search
31. Print All Articles
32. Special Division Search
33. Major Competitors
34. By Newspapers

OVERSEAS PAPERS

35. Toshiba
36. Major Competitors

PRESS RELEASES

40. Communication Industry
41. New Products, Technologies
42. Key word Search

GOVERNMENT REPORTS

43. Government Policies

SATELLITE BROADCASTING

50. High-Tech Shower

PUBLICATION

61. Books Recommended by CEOs
62. Best Sellers

Mondays' data includes Saturday and Sunday's newspaper articles

99. Exit

Select menu number then press enter. _____

pertise and technology. The Center staff's intensive knowledge and ability enables them to establish "a filter" to select and organize information on behalf of the Center's users. The Center staff consistently strives to identify information needs within the Toshiba Group or even in respective divisions. As a result, unique key words for each division are assigned in the process of scanning the information sources to enhance the customized quality of the service. Secondly, the ICN would not function without today's technologies such as OCRs, optical filing systems, LANs, and e-mail systems.

Conclusion

The rapid developments in computer technology have substantiated the virtual library concept. As this move is progressing, the roles of a corporate library and its staff are shifting from "information retrieval" to "information management," which requires the Business Information Center staff to have a clear vision of its users' information needs as well as the technological infrastructure of the parent organization. This virtual library strategy enhances the role and value of corporate libraries.

Special thanks to Yoko Kataoka for her translation from the original Japanese. Kataoka is Chief Librarian of Goldman Sachs (Japan) Ltd. She holds an MLS from Simmons College.

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Monday, January 30

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- CD-ROM: Local and Wide-Area Networking
- New Technologies for Recreating Your Information Service
- Using the Internet: Incorporating Internet Resources Into Your Library
- Technology and Applications, a unit of the Middle Management Institute (day one)

Tuesday, January 31

- Corporate Libraries and Company Information Technology: Strategic Integration
- Communicating With Users in the Changing Technology Environment
- Getting the Most out of E-Mail Access to the Internet
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Enabling Online End-User Searching: An Expanding Role for Librarians

by Jean Fisher and Susanne Bjorner

■ **Since the advent of end-user online search interfaces a decade ago, end-user searching has become a reality in the vast majority of corporations. A 1993 survey found that 85% of responding organizations have some end-users accessing online databases. End-user search activity usually expands library activity by adding new clients to the library's customer base and by increasing the complexity of search requests. This article examines the librarian's role in managing online access and training end-users and offers suggestions toward fulfilling that role in the virtual library environment.**

Survey of Librarians

In order to examine what was happening in the field of end-user online searching, Jean Fisher mailed a questionnaire to 990 librarians in New England, New Jersey, and New York in 1993. Most librarians who received the questionnaire were employed in corporate libraries, with smaller numbers in academic, law firm, and public libraries. The survey asked librarians whether end-users in their organizations were searching online, how they were trained, and how end-user searching had affected the library or information center. (See the survey in Appendix 1 on page 288).

The 88 respondents fell into the following industry categories: Financial (22%), Insurance (13.6%), Consulting (12.5%), Publishing (10.2%), Chemical (5.7%), Educational/Public Libraries (5.7%), Pharmaceutical (5.7%), Manufacturing/Consumer Products (5.7%), Communications (4.5%), Non-Profit (3.4%), Computers/Information Services (3.4%), Law Firms (2.3%), Advertising (2.2%), Utility (1.1%), Accounting (1.1%), and Energy/Waste Management (1.1%).

The responses to the survey are summarized below:

- A large majority (85%) of responding organizations have some end-users accessing online databases.
- End-users are most often trained by vendor representatives (48%) or by librarians (32%)—and most often they are trained by both.
- More than half (56%) of the librarians surveyed have sponsored end-user training.
- Almost half of the respondents (48%) have conducted training in the library.
- End-user search activity has overall (62%) increased library activity. More specifically, it has changed the type of activity to include more requests for complex searches and added new clients to the library's customer base.
- The overwhelming majority of librarians (91%) responded that end-users continue to rely on professionals for all but the most basic research.

The following verbatim comments offered by respondents add to the understanding of the questionnaire results:

"Many end-users are not very sophisticated and still need the help of professionals."

"Because end-users are not up-to-date on search techniques, they make more work for us."

"They stick to simple searches."

"We have proven that the library can answer questions faster, cheaper, and in greater detail."

"Their use of library staff depends on their time constraints."

"Some took the training but did not search often enough to keep up their skills."

"End-user searching has increased the appetite of the user community for more electronic searching by librarians."

The data confirm what many librarians have felt on a gut level: End-user activity proves the professional's worth as the complexity and multiplicity of information sources becomes apparent to the non-professional.

Others have observed this phenomenon. Nancy Garman wrote that "Published studies show a large fall-off in end-user searching after the initial novelty wears off. End-users have their own jobs to do."[1] And in a 1988 article, Barbara Quint sought to allay librarians' fears about being replaced by end-users when she wrote "Why would they fear replacement by inexperienced, over-worked end-users who neither have the background to do wide-ranging database searching nor want to acquire it?"[2]

Others writing in the online database literature have noted that end-user access has in fact decreased the demand for mediated searches. This effect, however, seems to occur most often in academic libraries where CD-ROMs are widely available and does not reflect heavy use of dial-up databases. Authors Crea, Glover, and Helenius see future implications for information professional activity in the academic library world. They conducted a survey at Yale University's Medical Library and found "an important trend for special libraries: *while actual numbers of librarian-mediated searches may continue to decline, requests for instruction in searching techniques and database structure will increase. Librarians will continue to use their database searching skills and expertise, but increasingly as educational consultants.*"[3] [Emphasis added.]

In another university study, this time at Hofstra's Axinn Library, Barbuto and Cevallos noted a drop in librarian-mediated searches in ERIC and PsycLIT from 196 in 1984-85 to 21 in 1988-89, while in those same databases end-user searches rose from 916 in 1986-87 to 1,604 in 1988-89.[4]

Impact on Special Libraries

Today's college and university students will enter the corporate world with an increased awareness of electronic information sources as a result of exposure to them in academic libraries. To some extent they will have more confidence and, hopefully, more expertise in using online information sources than did students of 10 years ago. We are already observing that these new researchers in the corporate world expect to have some autonomy in information gathering.

Librarians in this changing world will increasingly serve as information consultants to help interpret the array of information sources for their clients. In her 1992 article "Justifying the search and the searcher," Barbie Keiser showed that this is already happening. She says:

"The information professional has shifted from being the person actually performing online searches on external databases to being the advisor to end-users executing searches ... New opportunities for information professionals with the advent of end-user searching abound. Look for new roles to play. Try to:

- act as an internal consultant who recommends appropriate sources to solve specific business problems, online or otherwise;
- educate individuals performing specialized information tasks within a department about the possibilities for increased productivity in advanced information processing tools;
- train end-users in the use of new information tools;
- integrate information throughout the

corporation, bringing together the data collected and stored internally with external data into a comprehensive information resource for solving organizational problems; and
- choose the right medium for a database—dial-up, floppy disk, CD-ROM, etc., and the right tools for performing the specific tasks."[5]

One of the most important and challenging tasks in Keiser's list is to train end-users. A review of the literature has shown how librarians approach this task in traditional environments. We hope to expand the scope of training approaches to include those appropriate in a virtual library, where the trainer may never meet the user face-to-face.

Training End-Users

In the academic world, online use instruction is sometimes offered as part of a bibliographic instruction program. The program may take the form of a single course of several sessions (required or elective, for-credit or credit-free), or it may be a series of lessons integrated into various subject discipline courses, which may or may not depend on and build upon companion lessons. A characteristic common to these programs is that they require substantial amounts of staff time in coordination and planning, if not in actual instruction.

Corporate librarians usually say they do not have the staff resources to plan and carry out well-structured end-user training. Moreover, their clients don't have the time to take a long course in database searching or any instruction that cannot impact almost immediately on their "real" jobs, whether they are in research and development, marketing, competitive assessment, or whatever. Joanne Witiak, writing about a training program at Rohm and Haas, says the length of time a training program should last "depends on the objectives of the training and one's perception of the availability of time for the prospective students—in general, the shorter the better."[6]

Ferguson and Bjorner experienced confirmation of this rule of thumb when they taught a training session for IBM marketing employees covering online and non-online information seeking. After a few trial sessions of the class, student responses convinced the developers to reduce class time to a half day, instead of a full eight-hour day.[7] Even though it was not unusual for students to take corporate training courses of two or three days or a full week, students reported that they couldn't be away from their primary work tasks for a full day for this activity. Rather, they needed more time to check their voice mail for emergency messages from managers and co-workers, and they couldn't sit and concentrate for such a long time.

The situation of students juggling multiple tasks for multiple masters, and their perception that learning information-seeking skills is not something on which they can "waste" a lot of time, are not factors that librarian-trainers can afford to ignore. Librarians who are uneasy about the time and talent demands of teaching in "stand-up" classroom situations can comfortably recommend that that type of instruction be the exception rather than the rule. A better solution is to use in-class training sessions as a supplement to, rather than the basis of, a training program.

The Online Training "Class"

There is no doubt that end-users are attracted to the power of the modem. They will spend a few hours in an online training class because they think it will ultimately save them time by removing the need to arrange an interaction with an information professional when they have research requirements. By and large, end-users—even thoughtful and intelligent ones—underestimate the complexity of the information world.

Information professionals, of course, know that selecting sources and searching online is not as simple as anyone implies it is, and they know that determining the place of specific searches within the total research process is difficult. End-users who have gone through some online training often come to the realization that searching is both more complex and less definitive than they thought. This ac-

counts for the disenchantment that many experience over time with searching on their own.

Information professionals often have not planned for resources to support end-users who have gone through some training but who are now at that critical juncture where they've discovered that online searching is harder than they thought, and the answers are less certain than they were when they blissfully accepted results from an information professional but were unaware of the process he or she had gone through to get them.

When information professionals ignore the continuing education of "trained" end-users, no matter how minimal the training has been, they ignore the opportunity to turn them into intelligent consumers of information. The elements missing from most end-user training programs as they are now implemented are appropriate goals, the corporate context, and the continuing support function.

Goals—What Should We Teach End-Users?

The goals of end-user online training programs have often been quite narrow. Commonly, a training session, whether vendor- or librarian-sponsored, is designed to teach how to access and use a specific online system, or how to accomplish a specific task, such as finding information on a competitor company.

There is nothing wrong with holding a session to teach specific techniques. The mistake is in assuming that attendees of a technique-teaching class have become "information literate."[8] The techniques of online searching must be viewed within the total context of using information resources wisely.

To establish effective educational programs, librarian-teachers must extend the goals of end-user training beyond system- or task-specific techniques to embrace "information literacy." Recently, information literacy has received much attention in thoughtful discussion in library/information and teaching programs and may be viewed as an individual's ability to:

1) recognize an information need;
2) be motivated to satisfy that need;
3) develop a strategy to find the needed information;
4) carry through on that strategy; and
5) organize, evaluate, and use the information.[9]

Online training instruction can be quite effective in part of the process above. The promise of the ability to do online searches oneself is empowering and is the best motivator that librarians have ever had in promoting information skills. Learning online skills addresses the third and fourth elements of the sequence (developing and carrying through on a strategy). What limited exposure to online training typically fails to do is to help learners grasp the fifth element (organizing, evaluating, and using the information gained). It also fails to prepare them for the occasions when online searching, or the particular source or strategy they have selected, is not adequate for the question at hand.

Online training classes should not be faulted for their inability to teach all the elements involved in information literacy. They are an important element in the total instructional program, but they are not the complete program in themselves.

Corporate Context

It is desirable to teach information management skills that can be applied in multiple contexts, but to be immediately applicable, it is advisable to anchor the instruction in a specific context. When information management training is undertaken in a group rather than with an individual, the context must be common to all members of the group. Good external trainers—online system vendors or consultants—will want to adapt as much as possible to the culture of the group they are training. No matter how much they prepare for the specific group to which they are presenting, however, they cannot understand the specific context as much as a corporate librarian

who knows the company's mission and operates within its culture.

An understanding of the corporate context is essential for the development of practical search examples, and it also provides the opportunity to articulate and impart values to the learners. The librarians developing the IBM training course[7] were successful in getting other instructional team members to accept and promote three important values for the course:

1. Skills Over Technique

The aim was to develop good models of information-seeking practices that could be adapted by students in all information-seeking situations. As such, instructors were imparting a life skill that could be used beyond students' work lives at IBM.

2. Not Just Databases

Although learning about online databases was definitely the carrot that would bring students to a class, it was important to convey the concept that databases are not necessarily the best answer to all questions, and that books, libraries, and personal information sources could be used following the same basic process as looking for information in databases.

3. External as Well as Internal

Information sources external to the company had often been under-utilized. Efforts were made to value both internal and external information resources; this value was modeled by the use of co-presenters, one of whom was internal to the company and one of whom was external.

Support

End-user training often gets off to a good start when an outside trainer presents basic system skills and motivates learners to use online searching to answer their research questions. It falters, however, after the trainer has gone home and the reality of busy days occupied by more immediate tasks sets in. A large part of an instructional program should be devoted to quick point-of-use training aids that can be accessed by students when and where they need them.

Such point-of-use instructional aids can take many forms. They can be "canned" demonstrations of searches and explanations, presented via computer, video, slide-tape sets, or paper products. They can also take on a more interactive aspect with the development of individualized search help delivered by telephone voice mail, faxback service, or corporate e-mail. Critical to the success of help desk instruction is fast response, but that does not necessarily mean that someone has to "sit on the help desk" at scheduled times. Rather, a decision has to be made to put a high priority on the frequent checking of voice mail/fax/e-mail and a fast response with some—not necessarily the most complete—answer.

What's the difference between responding by telling someone how to find the answer to a question and responding with the answer itself? For one thing, it usually takes more time to teach someone how to do it than to do it yourself. But it is not necessary to turn every question into a lengthy discourse. In fact, it is not desirable to do so. Frequently, taking short, meaningful instructional steps results in better understanding and long-term retention than taking one gigantic step. A vital consideration, then, is to plan end-user training as a continuous process.

Management of End-User Training

It is essential that corporate library professionals manage the overall information curriculum. It is only the internal librarian who possesses an understanding of both the content and context of the instruction. Other corporate personnel generally see separate pieces of the total information pattern, but do not have an overall view of it. Personnel external to the corporation—even if they have an overview of the information process—cannot integrate that understanding into the corporate mission alone.

While the corporate librarian must take responsibility for managing the program, he or she need not be the sole agent for delivering

the training. Corporate librarians should concentrate their end-user training efforts on planning the overall program and delivering the continuing support function. Specific steps in the instructional sequence—the introductory course, for example—can be delivered by outside consultants, relieving librarians from lengthy preparation and difficult presentations. Librarian involvement in the organization of the introductory training session is mandatory, however. Librarians can rely on assistance from their human resources department for logistical and promotional support of a class and they can contract with training specialists for class delivery, but they should not hand over control or ownership of the class.

To lay the foundation for the continuing support that only the corporate librarian can provide, it is necessary for the librarian to be visibly present to end-users throughout training sessions. The tasks for the librarian at the class are to confirm that the librarian is an expert in the content taught, to assist the trainer in localizing the content, to make learners aware of complementary resources and skills not otherwise covered in the session, and to begin to function in the consultant/support role that is essential to continued success of the program.

End-User Instruction in the Virtual Environment

In "End-Users in 1993: After a Decade," Roberta Brody speculates that "end-user searching may already be as unremarkable as a reader examining the table of contents and index of a book."[10] The fact of end-user searching is indeed unremarkable in the age of Internet and electronic texts. However, not all end-users of information have an intuitive understanding of the value of examining the table of contents and index of a book, be it electronic or print. The virtual environment does not obviate the necessity of teaching end-users: it heightens the urgency.

The increasing "virtualization" of the environment in which companies and libraries operate impacts end-user training programs in two ways. The first involves the location and character of resources about which end-users need to learn. The second involves the location of learners and trainers/supporters.

Resources in the Virtual Environment

Gone are the days when information resources were limited to the books and journals in a company library or a small "satellite" collection on a colleague's desk down the hall. Soon to be gone, we hope, are long routing lists that delay receipt of journal subscriptions on individual desktops. If corporate employees today do not have direct access to thousands of electronic sources through their own desktop computers, their organizations are certainly planning for it. They do have access to a multitude of resources through the library, or down the hall, or from their home computers. The problem has changed from not being able to get enough information to not being able to define and retrieve out of the mass that which is good information.

As resources that were traditionally print-based become electronic, it becomes easier to move them or parts of them around the world and package and repackage them for varying markets. It becomes increasingly difficult—even for information professionals who have a primary responsibility to know about resources—to know for certain which particular version of an electronic news stream and filter is being accessed by the client. And even if the librarian can define it today, it will not be the same stream tomorrow—or even 15 minutes from now. The multiplicity, dispersion, and ephemerality of information resources makes it difficult to teach users about them in a concrete and effective fashion.

Librarians and Learners in the Virtual Environment

Since information access now takes place anywhere, users expect that instruction will be available anywhere as well. When corporate plants are commonly dispersed across the globe, corporate librarians may be accustomed to providing research answers to remote locations. Providing instructional support can build

on the same techniques that librarians have developed to deliver search results to remote users. Still, teaching complicated concepts can be difficult when instructor and learner are not in the same room.[7]

Technology to manage interaction between remote distances is continually improving. Distance learning can be managed through the use of two-way video satellite transmission, telephone-assisted training, multimedia courseware, and online messaging and conferencing. These and other new techniques can eliminate the lack-of-same-place barrier, but they do not all overcome differences in time. Time of instruction can be a problem when teaching must cross time zones. Even within the same time zone, scheduling time between instructor and learner is not always easy. Electronic mail, voice mail, and faxback services—all of which have become established customer support techniques from online vendors to professional searchers—can serve librarian-instructors and their leaders as well. The models for effective searcher support are there: we do not have to invent new ones for end-users. Immediate access and response is not essential: prompt response and an in-depth understanding of the context of the question is. The corporate librarian can provide that response within the context of the corporate mission and the virtual information environment.

As "On the Road" traveler Charles Kuralt has remarked, "Thanks to the Interstate Highway System, it is now possible to travel across the country from coast to coast without seeing anything." By designing and implementing good training, librarians can prevent the same misfortune from happening to end-users on the information superhighway.

This article is based on a session given by the two authors at the first SLA Northeast Regional Conference in Rye, NY in November 1993.

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8 Even librarians find it difficult to define the competencies exhibited by information literate

individuals. Appendix 2 offers an outline of information management behavior that can serve as a conceptual framework for describing competencies required for information literacy. It has been applied to information end-users and professionals in school-age and adult environments. Librarians may use this outline to select and construct learning objectives for their instructional programs.

[9] Bjorner, Susan N. "The information literacy curriculum—a working model." *IATUL Quarterly* (5)2: 150-160 (1991).

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Appendix 1

Endusers Survey Questionnaire—Summer 1993

For a paper to be presented at the Northeast Regional SLA Conference in November, your help would be appreciated in compiling data about endusers of online information in special libraries. The title of the paper will be "Empowering the Enduser."

Please take a couple minutes to fill out this questionnaire and return to me by mail by September 30:

Jean Fisher
Mead Data Central
44 Whippany Road
Morristown, NJ 07960

or fax me at 201-829-6530, or call me to give responses (or ask questions) verbally at 201-829-6537.

In the interest of consistency, the definition of "enduser" for this survey will be "anyone who accesses or searches external online information directly and independently."

1. Are there endusers of online information in your company?

   Yes____ No____

   How many?____

2. Are the endusers accessing pre-selected, pre-formatted information (as on an Executive Information Service workstation) or are they interactively searching a database?

   Accessing____ Searching____

3. What database(s) or systems do they use?

4. How were they trained?

   Who trained them?

   Has the library sponsored enduser training?

   Yes____ No____

5. Have you or other information professionals ever conducted enduser training in the library?

   Yes____ No____

6. Where do endusers access or search online sources?

   Office____ Home____ Traveling____ Other (specify)_____

7. Did they learn about online services through the information center or through some other source?

   Information Center____ Other (specify)_____

8. How has enduser activity affected online searching activity in the information center?

   Not at all____
   Increase in requests for online searches____
   Decrease in requests for online searches____
   Change in type of online requests____
   New requesters____
   Don't know____

   Comments_____

9. Have endusers continued to request research from the information center in addition to accessing or searching online independently?

   Yes___ No____

   Comments_____

10. Providing the following information will help compile responses by type of library.

    Company name_____

    Contact name and phone number_____

    Company line of business:

    Financial____
    Insurance____
    Communications____
    Computers____
    Pharmaceutical____
    Chemical____
    Advertising____
    Broadcasting____
    Publishing____
    Consumer Products____
    Consulting____
    Other (specify)_____

Appendix 2

Information Management Behavior
Competencies Required for Information Literacy
What Do We Need To Teach?

A. ***Recognizing and accepting an information gap***
1. Identify a question to be answered.
2. Place the question in a context.
3. Determine the information needed to answer the question.

B. ***Responding positively to the need for investigation***
1. Identify the consequences of not answering the question.
2. Determine the costs of investigating the question.
3. Decide on a range of effort to be used to answer the question.

C. ***Constructing alternative strategies to reduce the information gap***
1. Identify appropriate information sources.
2. Determine physical location of sources.
3. Determine access paths to sources.
4. Evaluate skills required to access sources.
5. Develop action plan(s) for utilizing resources.

D. ***Evaluating and selecting a strategy***
1. Estimate effectiveness of a strategy in relationship to cost, time and effort required for use.
2. Compare various strategies in terms of estimated effectiveness, cost, time and effort.
3. Identify the best strategy in terms of estimated effectiveness, cost, time and effort.
4. Revise a strategy or select another as necessary.

E. ***Acting on a strategy***
1. Determine a workplan for implementing the strategy.
2. Consult the sources required by the strategy.
3. Note/record the information derived from the sources.
4. Structure/restructure the information derived from the sources.

F. ***Assessing the effectiveness of a strategy***
1. Formulate the answer(s) found by using the strategy.
2. Compare the answer(s) found with the statement of the question to be answered.
3. Evaluate the success of the strategy selected in relation to the effectiveness of the answer found, time, cost and effort used.
4. Determine whether the original question has been answered.

G. ***Using information***
1. Identify the audience for the information.
2. Determine the physical format of presentation.
3. Select and arrange the intellectual content of the presentation.
4. Prepare the presentation.

H. *Storing information for future use*

1. Consider storage requirements of discrete information items.
2. Determine retention value of each item.
3. Discard items of no continuing value.
4. Determine physical storage mechanism(s) for items to be retained.
5. Determine intellectual access points for items to be retained.
6. Prepare items to be retained according to physical and intellectual access requirements.
7. File items in personal files.

Jean Fisher is an Information Professional Consultant for Mead Data Central. She holds an M.L.S. from Rutgers University and has worked in public, academic, and special libraries, where she has designed and implemented instruction programs for end-users. Susanne Bjorner is an Information Consultant based in Woodbury, CT providing editorial, research, and training services. She has a master's degree in education with an emphasis in curriculum development from Antioch University and an M.L.S. from Simmons College Graduate School of Library and Information Science.

On the Scene

Highlights from the *SLA Biennial Salary Survey 1995*

Every two years, the Special Libraries Association conducts an in-depth salary survey of its members. In the intervening years, SLA uses an abbreviated questionnaire to survey a random sampling of 25% of the membership to obtain a brief update to the in-depth survey data.

The objective of the salary survey is to provide the most up-to-date salary data to special librarians, their employers, students and guidance counselors. It enables SLA members to compare their salaries with those of their peers.

As in the past, the 1995 survey report includes data on salaries by geographic region, industry type, educational level, length of experience, gender, and library budget, to name a few of the report variables.

Questionnaires were mailed to the members and associate members in March 1994. Of the 11,905 questionnaires mailed, 4,992 surveys were returned, yielding a response rate of 42%. The complete results of the survey will appear as a separate publication entitled *SLA Biennial Salary Survey 1995*. This article presents highlights data, useful to SLA members, their employers, and the library/information community.

The 1994 data indicate an overall median salary increase in the United States of $332 from $40,133 in 1993 to $40,465 in 1994. This represents a .8% increase over last year. The overall mean salary reflects a $839 increase from $42,444 in 1993 to $43,283 in 1994 — a 2% increase.

In Canada, the median salary increased $450 or 1% from $45,550 1993 to $46,000 in 1994. The overall mean salary increased $431 from $47,120 in 1993 to $47,551 in 1994. This reflects a .9% increase. It should be noted that Canadian salaries are reported in Canadian dollars.

In comparing the 1993 data to the 1994 data, mean salaries in the United States Census Divisions varied from increases as great as 5.4% in the Middle Atlantic to 1.8% in the Mountain. Decreases in mean salaries are detected as well in these data, ranging from 6.8% in the West South Central to .4% in the East South Central. Table 1 on page 293 reflects both the mean and median salary changes in the Census Divisions as well as in the U.S. and Canadian national overall figures.

Table 2 on page 294 illustrates salary distribution in rank order of median salaries for Canada and the nine Census Divisions. In comparing the data with the 1993 salary survey update, among the nine U.S. Census divisions, the Middle Atlantic retained its standing in first position. The Pacific region moved into second place, switching with New England, which dropped to third. The South Atlantic retained fourth position. The East South Central, formerly in fifth position, dropped to sixth, while the East North Central moved up to fifth from sixth. The remaining three Census Divisions, the West South Central, the West North Central, and the Mountain, kept the same ranking as seventh, eighth, and ninth, respectively.

Table 3 on page 294 lists salary distribution in rank order of median salaries for five Cana-

dian metropolitan areas. Median salaries were highest in Ottawa, followed by Toronto, Montreal, Calgary-Edmonton and Victoria-Vancouver. It should be noted that data for these metropolitan areas were last collected in 1992 for the 1993 biennial survey.

The full report includes historical and comparative data for a broad range of variables. Separate tables for all Canadian and U.S. data are presented throughout the report. The *SLA Biennial Salary Survey 1995* will be available in late October for $42.00, SLA member price $33.00. Call the Association office at (202) 234-4700 ext. 643, fax to (202) 265-9317 or write to the SLA Order Department to order your copy today!

Table 1

1994 Mean and Median Salaries by Census Division in Rank Order of Percentage of Change in Median from 1993 to 1994 Including National Overall Figures

	Median $			Mean $		
Census Division	**1993**	**Change**	**1994**	**1993**	**Change**	**1994**
Middle Atlantic	43,467	3.5%	45,000	45,767	5.4%	48,237
Pacific	41,400	3.4%	42,800	42,738	4.7%	44,731
South Atlantic	39,979	.05%	40,000	42,284	2%	43,160
East North Central	38,983	(0.1%)	38,600	40,138	3.4%	41,484
New England	42,100	(2.7%)	40,987	43,308	(1%)	42,860
West North Central	37,150	(3.1%)	36,025	39,223	(2.6%)	38,218
East South Central	39,600	(4.2%)	38,000	38,962	(0.4%)	38,818
Mountain	37,100	(4.5%)	35,500	36,734	1.8%	37,412
West South Central	38,500	(5.5%)	36,500	41,638	(6.8%)	38,992
Overall United States	40,133	.8%	40,465	42,444	2%	43,283
Canada*	45,550	1%	46,000	47,120	0.9%	47,551

*Salaries reported as of April 1, 1994 in Canadian dollars. The exchange rate on April 1,1993 was approximately Canadian $1.25=United States $1.00. On April 1, 1994 the exchange rate was approximately Canadian $1.38=United States $1.00.

Table 2

Salary Distribution by Census Division in Rank Order of 1994 Median Salaries*

	Average Lowest 10%	First Quartile 25%	Median 50%	Third Quartile 75%	Average Highest 10%	Number	Mean
Census Division							
Canada*	30,101	40,000	46,000	53,500	71,875	405	47,551
Middle Atlantic	25,467	36,500	45,000	57,000	85,298	855	48,237
Pacific	25,590	35,718	42,800	51,000	73,723	656	44,731
New England	26,125	34,000	40,987	50,000	69,140	300	42,860
South Atlantic	24,349	32,000	40,000	50,000	77,899	773	43,160
East North Central	24,805	31,800	38,600	48,120	71,162	725	41,484
East South Central	20,714	29,390	38,000	44,705	68,573	104	38,818
West South Central	23,005	31,200	36,500	44,700	64,951	257	38,992
West North Central	20,551	29,060	36,025	44,000	67,119	224	38,218
Mountain	21,168	29,000	35,500	44,000	59,993	163	37,412

* Salaries reported in Canadian dollars. The exchange rate on April 1, 1993 was approximately Canadian $1.25=United States $1.00. On April 1, 1994 the exchange rate was approximately Canadian $1.38=United States $1.00.

Table 3

Salary Distribution by Canadian Metropolitan Area in Rank Order of 1994 Median*

Area	Median	Mean	No. of Respondents
Ottawa	49,000	49,980	33
Toronto	47,271	47,953	194
Montreal	46,388	48,049	68
Calgary-Edmonton	45,000	45,665	49
Victoria-Vancouver	42,065	44,910	44

* Salaries reported in Canadian dollars. The exchange rate on April 1, 1993 was approximately Canadian $1.25=United States $1.00. On April 1, 1994 the exchange rate was approximately Canadian $1.38=United States $1.00.

BIENVENUE À MONTRÉAL

by Claire Kelly, Hospitality Chair
Eastern Canada Chapter

You'll know you're in French Canada the moment you hear this phrase—"Bienvenue à Montréal"—"Welcome to Montréal." The Eastern Canada Chapter members are looking forward to seeing you there June 10-15, 1995 at the 86th SLA Annual Conference. To help you in your planning, here are some of the things you might like to know.

Founded more than 300 years ago, Montréal has grown to be a large cosmopolitan city. The geographic location between the shores of the St. Lawrence River and Mount Royal contributed to its cultural and socioeconomic development. Montréal is one of the largest bilingual cities in the world. The influence of the two cultures, English and French, is felt everywhere and a harmonious integration is apparent. Here you will find the new intermingling with the old; the modern with the past.

Throughout the spring and summer months a wealth of shows, concerts, exhibitions and celebrations highlight the city's heritage and culture. The joie de vivre and the legendary hospitality will be yours to savour and remember.

Getting There

Montréal is served by two major airports. Dorval and Mirabel. Ground transportation from Dorval Airport to the downtown (Centre Ville) area is about 12 miles and 30 minutes. The bus is approximately $10 CDN. Taxi fare is about $25 CDN.

The Conference Centre is at 201 Viger Avenue in the downtown area. A superb transportation system (bus and subway) is available and special tourist passes are available at reasonable rates.

Conference Hotels

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900 Réné Lévesque W.

Centre Sheraton Hotel
1201 Réné Lévesque W.

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Château Champlain
1 Place du Canada

Hôtel Lord Berri
1199 Berri Street

Hotel Plaza Howard Johnson
475 Sherbrooke W.

Hôtel Arcade
50 Réné Lévesque W.

Holiday Inn Crowne Plaza
420 Sherbrooke W.

Hotel Furama
215 Réné Lévesque E.

Hotel La Citadelle
410 Sherbrooke

Holiday Inn Montréal
99 Viger

In addition, Montréal has a plethora of smaller family-size hotels and bed and breakfasts. Additional information may be obtained from:

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Chamber of Commerce of Metro Montréal
(514)288-9090

CAA Quebec
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(514)844-5400

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(514)872-8169

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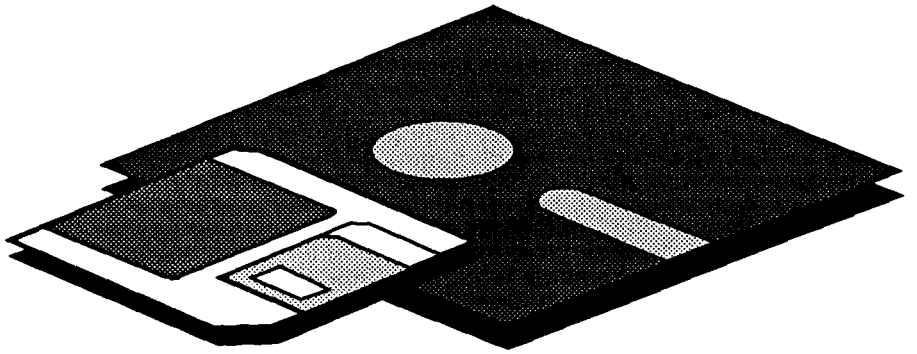
A bientôt!

Software Review



***askSam* 5.1. askSam Systems 119 S. Washington St., Perry, FL 32347. (904)58465 90; 1-800-3-ASKSAM; Fax (904)584-7481. $395. DOS version includes 5.25 and 3.5 inch disks, User's Guide, and Reference Manual. $24.95 upgrade from 5.0 and $125.00 upgrade from 4.2. $1,095 Five station network DOS version; $395 Windows version 2.0.**

askSam was used to write TLC (Total Library Computerization), a software package consisting of six separate programs for acquisitions, cataloging, circulation, serials control, interlibrary loan, and memoranda. For the same $500 needed to purchase a single program of TLC, you might purchase the parent database management software—*askSam*—which would enable you to develop numerous programs for your library. This review focuses on features of *askSam* involved in simple data entry, searching, and programming in a library setting.

askSam (access Stored Knowledge via Symbolic Access Method) is a software whose purview extends beyond the library world to academia, industry, and government. The software runs on IBM PC, AT, PS/2 or compatibles with at least 384 K memory and cooperates with PC on MS-DOS 2.0 or higher and Microsoft Windows 3.0 or higher. A network version is also available. Since *askSam*'s introduction in the early '80s, it has been updated numerous times and DOS version 5.1 allows simple word processing as well as data storage and retrieval by command or menu. It is the way information may be stored that makes *askSam* unique.

The "free-text" option is *askSam*'s distinguishing feature. Data may be entered free-form as well as in standard defined fields. In choosing a database structure, developers choose among "record" (pre-defined fields, single screen), "document" (pre-defined fields, multiple screens) or "free" mode (no defined fields or length specifications), depending upon the length and form of data. A free-text feature may be attractive to libraries with special collections or collections including unusual material such as research notes or electronic mail messages in which data is unstructured. Input typists should expect some delay when entering data in pre-defined fields because the program presents the cursor not at the line of the first blank field but instead at the first line on the screen, making it necessary to move the cursor down line by line to begin data entry.

askSam does not allow repeating fields but does allow files to be linked in order to avoid data duplication. In free mode, a blank screen

is presented and information may be entered in any form; while in record and document mode, a re-usable "template" screen is created to define "explicit" fields and information is entered within square brackets. When data is entered within the brackets, the template becomes a record.

With *askSam*, it is unnecessary to re-type a database from scratch. Data word processing programs, spreadsheet programs such as Lotus 1-2-3, or other database management programs such as dBase III may be imported in ASCII format. The first step in the import procedure is to create a file in which the imported data is stored. From *askSam*, many databases may be created for different library functions, each database with the same interface. A screen may be created to introduce each database, and hypertext menus developed to offer a choice of databases.

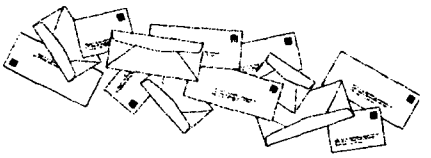
Searching, or "query," is a mode separate from data entry. Searches may be executed within or among files and search results may be sorted or subsorted in a number of ways, for instance, alphabetically or chronologically or by the last word in a field. Only one sort is possible per query, but searches and sorts that are executed repeatedly may be stored as programs. Entries retrieved can be displayed on screen and printed, but in searching, sorting and subsorting requests from large databases, there is likely to be a several second delay.

askSam includes 18 types of programming commands in categories such as editing, logical, arithmetic, and report; there are about 100 commands in all. To use the commands requires knowledge not only of command vocabulary but also of command syntax. *askSam*'s command vocabulary is not always obvious nor is its syntax intuitive, and for this reason, several software reviewers deem *askSam* difficult to learn. The Windows version of the software does not require learning the command language because many search features and functions may be accessed from pull-down menus and dialogue boxes, and the Report Writer allows reports to be created by selecting field names from a list and arranging the names in a report layout. It is unwise to dismiss the DOS version of the software on the basis of its unique programming language because it is its uniqueness that lends versatility. Consider that Talley and McNitt, the librarian—authors of *Automating the Library with askSam* (1991) who started with the DOS version, declare that it is not necessary to be a "computer genius" to use *askSam*, and that "anyone can do it." A tutorial program (aschelp.ask) introduces the software, and online context-sensitive help is available. The *askSam Reference Manual* lists commands alphabetically and gives examples of each command, and the *User's Guide* describes various functions and guides users keystroke by keystroke through procedures.

For librarians in charge of special collections, *askSam* may be ideal because it offers the flexibility of data entry in either free or template form for print or non-print materials and the convenience of using one system and interface to automate many tasks.

Judith Gelernter, M.L.S. Simmons College 1994.

Letter to the Editor



August 23, 1994

Gail L. Repsher
Editor, *Special Libraries*

Dear Ms. Repsher:

In the latest issue of *Special Libraries* (Summer 1994), there was a much needed article about moving libraries ("Making Your Move and Getting it Right," pp. 145-153). The authors presented a logical and thorough description of the various steps necessary for a smooth library move.

Having planned, organized, and participated in numerous library moves, I felt that some points were omitted. I have moved a corporate library (the company moved 17 miles to new buildings) and various special libraries. In my present position, I have supervised and/or moved the central library collection as well as the collections of 10 federal judges and magistrate judges.

The points that I thought needed to be included in this article follow. The authors assumed that the library has a large staff. Often this is not true. In many instances, a library staff consists of one professional and (if lucky) one support person. These are the people who must plan, organize, and move (sometimes with professional movers, sometimes with unskilled labor, and often doing the physical labor themselves). The solution to the lack of staff is to beg, borrow, steal, or hire additional help. If the parent organization is supportive (and is already committed to a moving budget), this can easily be accomplished. Additional help can come from many sources, including other offices within the company, other branches, temporary agencies, or interns. Don't overlook local colleges, universities, or even high schools. They may have programs to help students find local employment. And if you're lucky enough to have a local library school, contact them. What a great class project helping to move a library could become.

The need to plan is absolutely the most essential thing anyone can do before a move. The longer the lead time, the better off you will be. It is also important to remember that no matter how thoroughly you plan, there will always be some unexpected surprise. In many cases, preparation time is nonexistent. Renovation work gets started and a completion date is given; the date comes, the work isn't done. Suddenly you are moving tomorrow! Those last minute steps now have to be done in a very short period of time. There is no way to deal with this problem. Conversely, you can be set to move tomorrow only to have unexpected delays and problems drag out the process for weeks or months. A key element to survive moving is flexibility for you and your staff.

Although we may not want to admit it, most of us find that we solve not only cerebral problems but also fix physical things as well. To be truly prepared for a move, think about having the following items available: hammer, screwdrivers, WD-40 (or similar product), pliers, rubber mallet, and other assorted tools. This will save time and aggravation.

Because many of us are in "one person" situations, we need advice on how to do a move without alienating users yet retaining our sanity.

Robin Holab-Abelman
Librarian, Satellite Library
U.S. Court of Appeals, Eleventh Circuit
Mobile, AL

Information For Contributors

Special Libraries publishes material on new and developing areas of librarianship and information technology. Informative papers on the administration, organization, and operation of special libraries/information centers and reports of research in librarianship, documentation, education, and information science and technology are appropriate contributions.

Contributions are solicited from both members and nonmembers. Papers are accepted with the understanding they have not been published elsewhere. *Special Libraries* employs a reviewing procedure. When reviewers' comments have been received, authors will be notified of acceptance, rejection, or need for revision of manuscripts. The review procedure usually requires a minimum of eight weeks.

Three types of original contributions are considered for publication: full-length articles, brief reports, and letters to the editor. New monographs and significant report publications relating specifically to library and information science are considered for critical review. Annotations of the periodical literature as well as annotations of new monographs and reports are published—especially those with particular pertinence to special libraries and information centers. Articles of special relevance may be reprinted occasionally from other publications.

Full-length articles may range in length from about 1,000 words to a maximum of 5,000 words (12–15 pages of manuscript typed and double spaced). Reports will usually be less than 1,000 words in length (up to 4 pages of manuscript, typed, and double spaced).

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  Smith, John and Virginia Dare. "Special Librarianship in Action." *Special Libraries* 59 (10): 1241–1243 (December 1968).

  Smith, John J. "The Library of Tomorrow," in *Proceedings of the 34th Session, International Libraries Institute, city, year. 2v.* city, press, year published.

  Featherly, W. "Steps in Preparing a Certification Program in a Company." ASME Paper 72–DE–12 presented at the Design Engineering Conference and Show, Chicago, IL, May 8–11, 1972.

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  Brown, Abel. *Information at Work.* New York, Abracadabra Press, 1909. 248 p.

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- At this stage authors must keep alterations to a minimum.

SPECIAL LIBRARIES INDEX

Volume 85 January-December 1994

Alphabetization is letter by letter.
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are indicated by "*about*"
following the name.

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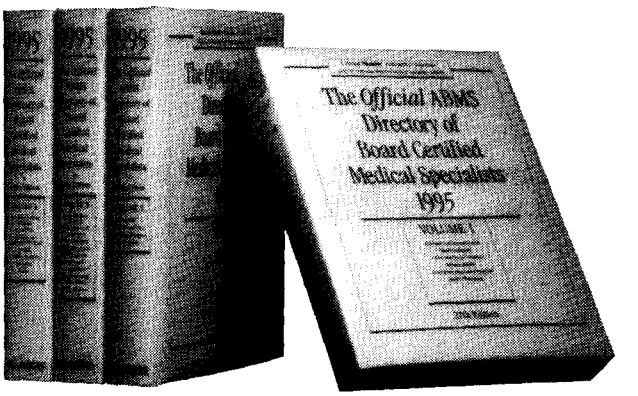

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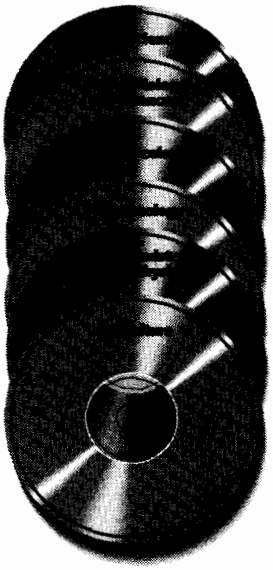

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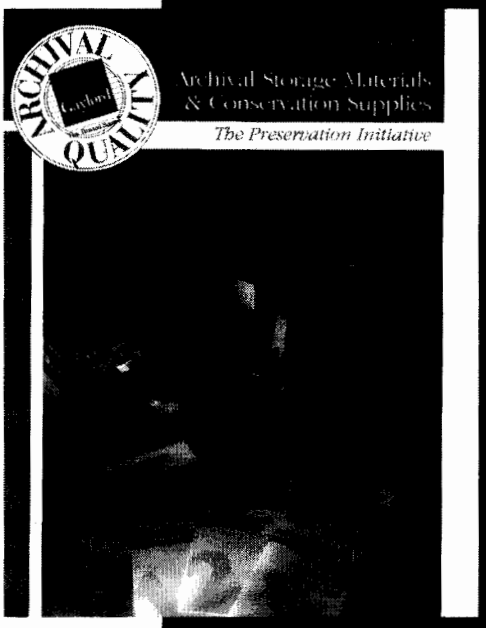

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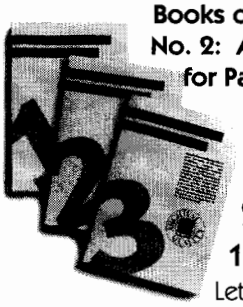

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